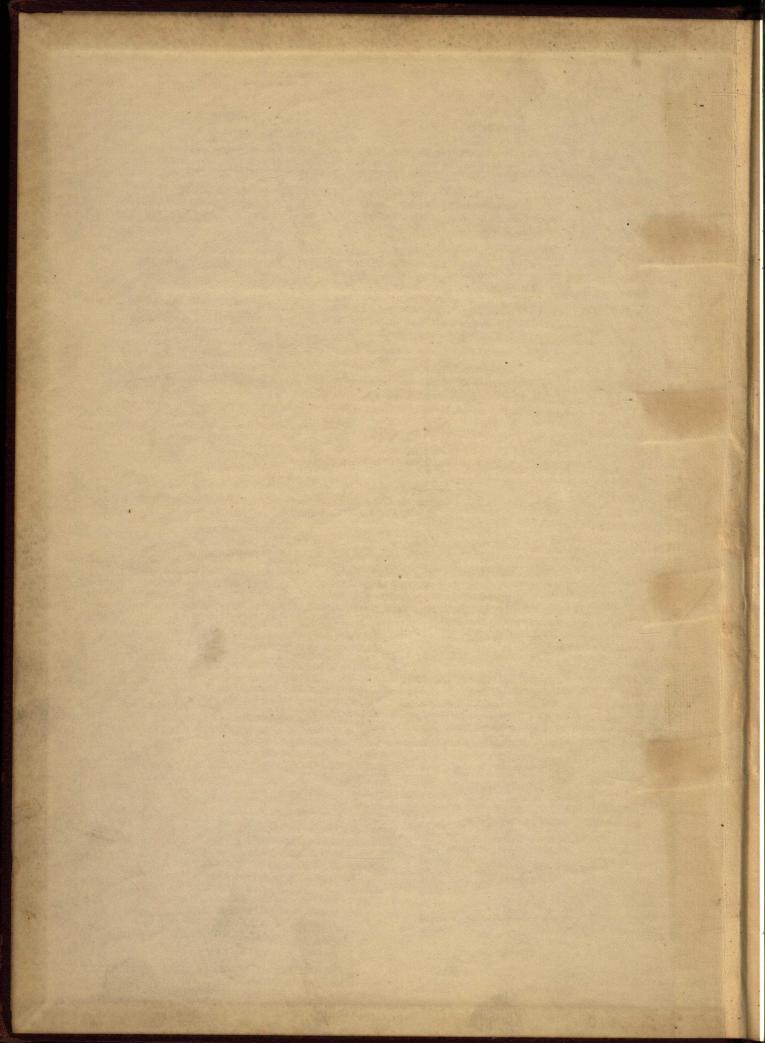
PLUMBING & HEATING SUPPLIES



MILWAUKEE, WISCONSIN CATALOGUE E



Catalogue E

THE ROBERT ROM COMPANY

Distributors of

MODERN PLUMBING SUPPLIES

Boilers, Radiators and Heating Accessories
National Tube Company's Scale Free Pipe
Byers' Genuine Wrought Iron Pipe
Cast Iron Water Main and Fittings
Hydrants and Gate Valves
Lunkenheimer Brass, Iron and Steel Valves, Oil Cups and Lubricators
Cast and Malleable Iron Fittings
Cast Steel and Hydraulic Fittings
Water Supply Systems
Lupton's Steel Shelving
Tools, Packing and Engineers' Supplies

Office, Show Room and Warehouses

1023-1101 St. Paul Avenue

MILWAUKEE, WISCONSIN

IMPORTANT

For the General Information of the Trade Attention is Called to the Following Well-Established

TRADE CUSTOMS

PIPE

Wrought Pipe is a term used to distinguish Wrought from Cast Pipe. It is construed to mean Standard Pipe, and is generally made from soft steel. Persons desiring to obtain pipe made from Puddled Iron, must designate Genuine Wrought Iron Pipe, for which an extra charge is made.

DAMAGES

We guarantee material sold, but only to the extent of supplying perfect goods for any found defective, and will not allow any claims for labor or consequential damages. The measure of damage shall be the price of any defective piece, such defective piece to be returned before credit will be given.

RETURNED GOODS

When orders have been correctly filled, no credit will be allowed for goods returned, nor will teamsters be permitted to accept goods to be returned, unless a full explanation has been made and our consent obtained. All goods returned—if accepted—will be credited at the same price at which they were charged, less 10 per cent and all shipment expenses.

BREAKAGE

All goods are packed by skilled men. If an article is broken in transit, the condition of the package at its destination is no evidence of its original condition. When goods are shipped to a customer and have been receipted for by a Transportation Company, in good condition, the shipment immediately becomes the property of consignee; no allowance will be made for breakage or loss in transit, and consignee must look to Transportation Company for relief.

CONTRACTS, SALES AND PRICES

All agreements are contingent upon strikes, fires, accidents or delays beyond our control. All prices are subject to change without notice, and all contracts and orders taken are subject to approval of the executive office at Milwaukee, Wisconsin.

CHANGES

We reserve the right to make any changes in detail on our goods, which may, in our opinion, develop an improvement or gain convenience for the operator, without reference to descriptions and illustrations in this catalog.

CLAIMS

All claims for deductions or shortages must be made within ten days from receipt of material.

PRICES, QUOTATIONS

All list prices are subject to change without notice and quotations are made for immediate acceptance only and subject to change without notice.

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Model Bath Room.—In planning a bath room it is desirable to install fixtures that can be kept clean and spotless with the minimum of effort. It is recognized that the china and enameled iron fixtures are easily kept clean with little effort, but the metal trimmings soon discolor and become unsightly if neglected.

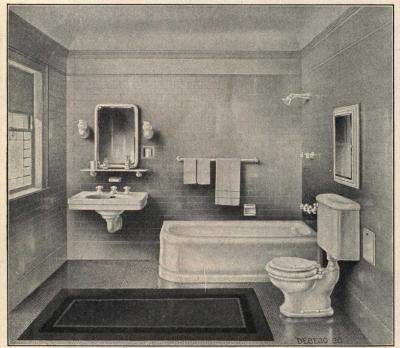


Fig. 11

The bath room illustrated here is without exposed metal, piping or screws. All valves on lavatory, bath and shower are fitted with unbreakable china handles with patented overlap concealing the ordinarily exposed nickel spindles, spuds and screws.

Bath.—5½-foot Enameled All Over One-piece Iron Bath, Built into Wall and Floor, with China Shower Head, and Concealed Compression Supply and Waste Fittings with All China Handles and Escutcheons............

LAVATORY.—Vitreous China Lavatory
30x24 Inches with All China Combination Supply and Waste Fitting and
Trap to Wall, Completely Encased in
China......

CLOSET.—Vitreous China Noiseless Syphon Jet Bowl with Vitreous China Tank, White Cellu-enameled Seat and Cover with Concealed Hinges and China Cased Posts and China Bolt Caps

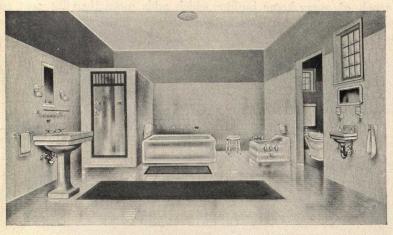


Fig. 12

Model Bathroom "De Luxe" on account of the superior quality of the fixtures therein, its completeness, general arrangement and conveniences lend a dignity and sense of luxury that fully warrants its name. We condense herewith a few of its features.

BATH TUB.—Roomy one-piece built-in type with concealed fixtures, climinating moisture and dirt, and absence of metal parts reduces cleaning efforts.

Shower.—Concealed in a tile stall with all white metal frame and ventilating top provided with heavy glass door, the modern needle bath installed therein gives the user a sense of pleasure in bathing that is indescribable.

SITZ BATH.—This combination foot bath, sitz-

bath, liver spray and bidet spray, because of its beneficent effects, is indispensable in the ultra modern bathroom.

Dental Lavatory.—Where strict sanitation is desired and good health thoughts are paramount, this integral stream nozzle fixture is the best that can be furnished.

LAVATORY.—Of pedestal design, it is the handsomest and finest made, and worthily matches the other fixtures. The fixtures permit the mixing of hot and cold water to any desired temperature.

Closet.—All white, quiet acting, in an enclosure of its own it is as near perfection as sanitary science perfected to this time can make it.

Accessories.—All of purest white china of the built-in type, they are of a type and quality to add to the joy and convenience of the owners.



This room is designed for a house in which bath room space is limited and yet retains a pleasing effect without apparent overcrowding.

BATH.—The Bath is made in one piece, enameled white and constructed so as to tile into a recess as illustrated.

SHOWER.—The inviting shower bath, with adjustable head, is built in the wall and may be operated independently without filling the tub.

LAVATORY.—The lavatory, of high grade vitreous china, is the best quality and possesses charm and character. The leg support harmonizes with this type of room. The floor is kept clear of piping; the supply pipes and trap go to the wall.

WATER CLOSET.—The vitreous china syphon jet closet gives a rapid thorough flush, and embodies many new features.

CLOSET.—The closet which encloses the concealed piping may serve as a linen closet or medicine chest. The long beveled plate glass mirror in the door adds greatly to the appearance of the room.

Model Bathroom of a type within reach of every home builder which adds more than its cost to the value of the home. It is an inexpensive equipment, and intended for houses of moderate cost, apartment or flat buildings. While the fixtures are not elaborate in design, they are of first class quality. The arrangement may be readily changed

to suit floor space.

BATH.—5-foot enameled Colonna bath with 3-inch roll rim, fitted with nickelplated compression double bath faucet, nickel-plated connected waste overflow and supply pipes.

LAVATORY.—Enameled iron Bretton, 18x21 inches with integral back and apron, compression faucets, nickelplated supply pipes and trap to wall.

CLOSET.—Vitreous china syphon washdown bowl, golden oak seat and cover, and enameled iron tank with fittings.

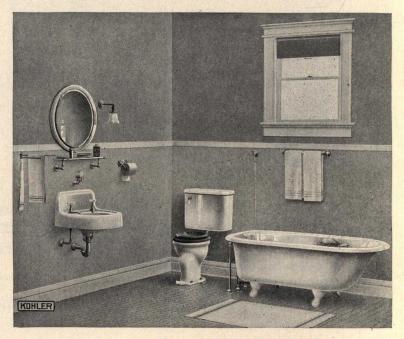
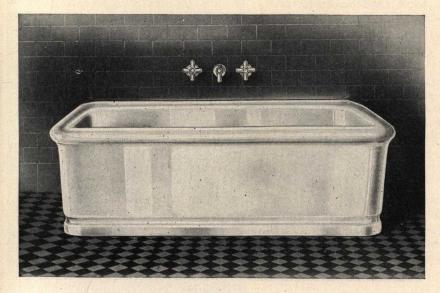


Fig. 22



Solid Porcelain Bath to tile in at back wall with beveled bottom waste outlet, all exposed surfaces glazed, fitted with ½-inch concealed compression supply and standing waste fitting with nickel-plated top nozzle and china handles and escutcheons.

Dimensions

Width outside 31 inches Height outside 19 inches

Fig. 31

Nominal Sizes	5	51/2
Approximate Shipping Weightpounds	925	1100

Waste outlet furnished at right or left hand end. Specify when ordering.

Can also be furnished with exposed supply and waste fitting at right or left hand end.

Prices for porcelain baths are based on kiln-run ware. An extra charge will be made for special selection.

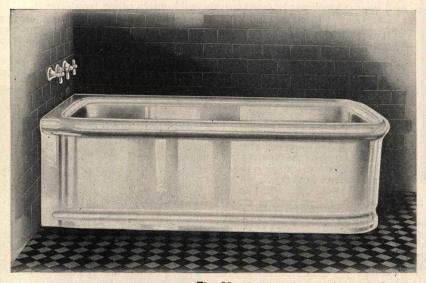


Fig. 32

Solid Porcelain Bath to tile into left hand corner with left hand beveled bottom waste outlet, all exposed surfaces glazed, fitted with ½-inch concealed compression supply and standing waste fitting with top nozzle and all china handles and escutcheons.

Dimensions

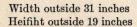
Width outside 31 inches Height outside 19 inches

Nominal Sizes	5	51/2
Approximate Shipping Weightpounds		

Can be furnished to tile into right hand corner with right hand waste outlet and fittings.

Prices for porcelain baths are based on kiln-run ware. An extra charge will be made for special selection.

Solid Porcelain Bath to tile into recess with left beveled bottom drain outlet, all exposed surfaces glazed, fitted with ½-inch concealed compression supply and standing drain fitting with nickel-plated top nozzle and all china handles and escutcheons.



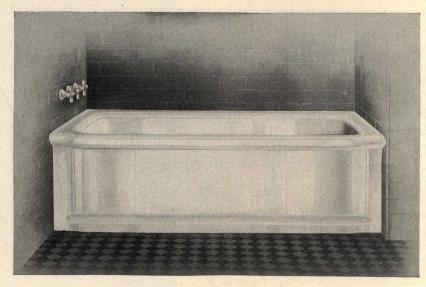


Fig. 41

Can be furnished with right drain outlet and fittings in right end wall or in back wall.

Prices for porcelain baths are based on kiln run ware. An extra charge will be made for special selection.



The Nilson Protecto Bathtub Cover with a 6-inch Extension Bolted to Recess Tub Fig. 42

Nilson Protecto Bathtub Cover furnished with bolts and clamps and heavy kraft paper front apron, with stickers for front panel.

The Nilson Protecto Bathtub Cover is made of Plymetl, the only material found light and strong enough to withstand the abuse and hard usage to which these covers are subjected. Ten men can stand on a cover, when in place, without damaging it. Full directions for attaching are on every cover.

ing it. Full directions for attaching are on every cover.

This cover protects all the exposed glazed surfaces of enameled iron or porcelain built-in baths, from being chipped by mechanics' tools and protects the fine

polish and lustre from being irreparably damaged by the accumulation of lime, plasterers' cement and paint usually found in the bath at the completion of the building.

The method of bolting a cover to a

The method of bolting a cover to a tub is positive and requires but 2 minutes. When in place the plasterer, tileman, bricklayer and painter can use it for a scaffold or work-bench without injury to the tub. It is sealed against use as a toilet, preventing clogged waste pipes and possible staining.

The heavy kraft paper apron with stickers covers the entire front of the tub and on this apron is printed in bold type a warning that anyone removing the cover will be held responsible for damage to the tub. This is notice to the carpenter, plasterer, painter, tile-man and everyone on the job not to disturb the cover. Sufficient clear space is provided around tub rim so that ordinarily even the bottom row of finish tile can be laid.

tom row of finish tile can be laid.

When the cover is bolted in place, the 2 end clamps become imbedded in the wall with the plaster and cannot be removed. Extra end clamps and additional aprons with stickers can be supplied.

prous area stronger our so supplied.		
Price, Cover with Paper Apron for 4½-foot Recess Tub	each	\$16 00
rice, co. of with raper riprofit for 1/2 root recess rub	· · · · · · · · · · · · · · · · · · ·	φ10.00
	"	16 00
" 6 inch Extension for 51/ fact Books Tub		
" 6-inch Extension for 5½-foot Recess Tub	"	3.00
" 9 " " Corner Tub		See the second second second
		3.50
" 12 " " 6-foot Recess Tub	"	4 00
0-100t necess 1 up		4.00
" Extra Aprons Complete with Stickers	non donon	2.40
Extra Aprons Complete with Stickers	per dozen	2.40
" End Clamps to Replace Those Buried in Wall	nor dog nr	2.40
End Clamps to replace Those Buried in Wall	per doz. pr.	2.40
Note. 4½-foot cover with 9-inch extension is for 5-foot co	orner tub: 5-for	t cover
1/2 root cover with a men extension is for o-loot et	Jinei (ub), 0-100	JU COVET

with 9-inch extension is for 5½-foot corner tub.

Prices include heavy paper apron and stickers for attaching.



Cover Protects Tub During Construction



Fig. 51

Combination Seat, Foot, and Child's Bath is an entirely new departure in the development of modern sanitary comforts.

For the usual purpose of bathing it is more convenient and comfortable than the ordinary bath tub, requiring less water and yet giving ample space.

In bathing the feet it is not necessary to remove all of the clothing, as sufficient water can be obtained in the foot bath without wetting the seat. The ledges on front and both sides enable one to massage or treat the feet conveniently, while the dimensions of the bath allow ample space for the feet when standing or sitting.

A children's bath has been an expensive luxury to be found only in the mansions of the rich. One is now presented in combination which is absolutely safe, most convenient and comfortable.

This bath is also much more adapted for the sick or invalid than the ordinary tub, affording a position without physical effort.

The bath is made in porcelain all exposed surfaces glazed and enameled iron with enamel exterior. The porcelain bath may be used in recess or corner or as a wall pattern bath. The enameled iron is made for recess only.

Style	Vitreous Porcelain	Iron
Length Over All inches	44	441/2
" Inside "	38	391/2
Width Over All	30	30
" Inside	24	241/2
Depth Outside at Seat	17	16
" Inside " " "	15	151/2
Foot Recentor Inside "	16x18	16x17
" Depth "	9	9
Approximate Shipping Weight pounds	725	370

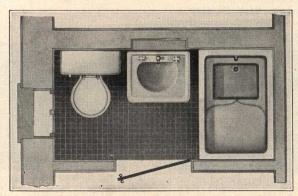


Fig. 52

The above shows floor plan of a bath room 4x7 feet equipped with combination bath.

The combination bath is an entirely new departure in the development of modern sanitary comforts, comprising, as it does, seat, foot bath, shower and child's bath, all in one.

For the usual purpose of bathing it is much more convenient and comfortable than the ordinary bath tub, requiring less water and yet giving ample space.

As a shower bath—it is especially attractive. The arrangement of foot bath and seat permits the taking of head shower or body bath, the latter without wetting the hair, as the deep drain on the seat shelf allows the soapy water to run off quickly thus preventing slipping when a bath mat is not used.

In planning of large apartments, hotels, residences, bungalows or any living quarters the adoption of this fixture has many advantages and is an ideal combination for every method of bathing.



Fig. 53

Viceroy Enameled All Over Onepiece Apron Bath with slope end, for building ½ inch into wall and ½ inch into floor, fitted with combination built-in top supply, 2-inch secret drain, shower, special side discharge head, ½-inch mixer and compression valves for iron pipe supply and riser connections, china handles and escutcheons, nickel-plated curtain rail and white duck curtain.

Outlet in tub at right end

Width over rim 30 inches
Width of exposed rim $3\frac{1}{2}$ inches
Width inside 24 inches
Floor to top of rim $17\frac{1}{2}$ inches
Depth inside, at outlet 17 inches

Nominal Sizes feet 41/2 5 51/2 6 Length Over Rim. in. 55 61 67 73 Approximate Shipping Weight pounds 540 600 650 700

Can be furnished with outlet at opposite end and supply and drain fitting or shower as shown with any of these built-in apron baths.

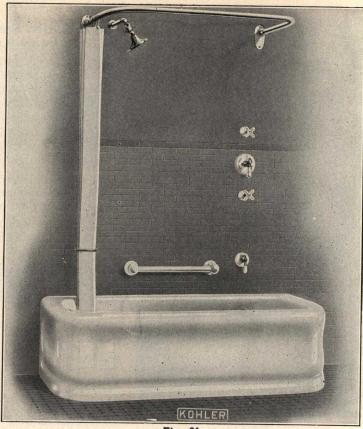


Fig. 61

Enameled Iron Baths

Viceroy-Wall Pattern

Name Registered U. S. Patent Office
The views below show the various styles of installation for wall pattern Viceroy baths.

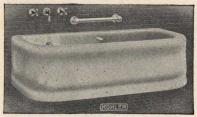


Fig. 62

Left end drain outlet, concealed compression top supply and secret drain fitting in back wall near left end.



Fig. 65

Left end drain outlet, exposed top supply and secret drain fitting at left end.



Fig. 63

Left end drain outlet, concealed compression top supply and secret drain fitting in center of back wall. Can be furnished with drain outlet

at right end.

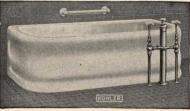


Fig. 66

Right end drain outlet, exposed top supply and secret drain fitting in front near right end.



Fig. 64

Right end drain outlet, concealed compression top supply and secret drain fitting in back wall near right end.



Fig. 67

Right end drain outlet, exposed top supply and secret drain fitting at right end.

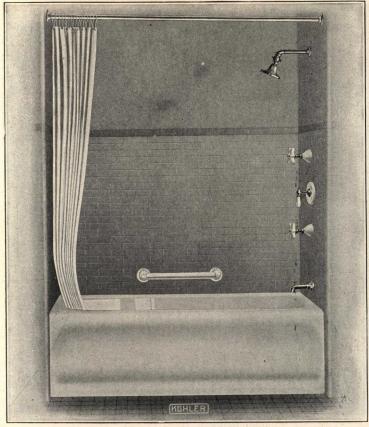


Fig. 71

Viceroy Enameled All Over One-piece Recess Bath with slope end, for building \(\frac{1}{8} \) inch into walls and \(\frac{1}{2} \) inch into floor, fitted with combination built-in over rim supply, \(\frac{1}{2} \)-inch connected drain and overflow, shower, \(\frac{1}{2} \)-inch mixer and compression valves for iron pipe supply and riser connections, china handles and escutcheons, curtain rail and duck curtain.

Outlet in tub at right end.

Width over rim 30 inches Width of exposed rim $3\frac{1}{2}$ inches Width inside 24 inches Floor to top of rim $17\frac{1}{2}$ inches Depth inside, at outlet 17 inches

Nominal Sizesfeet	41/2	5	51/2	6
Length Over Rimin.	54	60	66	72
Approximate Shipping				
Weightpounds	435	525	580	650

Can be furnished with outlet at opposite end and supply and drain fitting or shower as shown with any of these built-in apron baths.

Enameled Iron Baths

Viceroy—Recess Pattern

NAME REGISTERED U. S. PATENT OFFICE

The views below show the various styles of installations for recess pattern Viceroy baths.

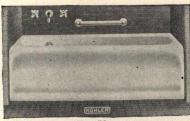


Fig. 72

Left end drain outlet, concealed top supply and secret drain fitting in back wall near left end.



Fig. 75

Left end drain outlet, concealed top supply and secret drain fitting in left end wall.



Fig. 73

Left end drain outlet, concealed top supply and secret drain fitting in back wall at center.

Can be furnished with drain at right end.

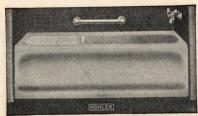


Fig. 76

Right end drain outlet, concealed top supply and secret drain fitting in right end wall.

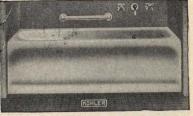


Fig. 74

Right end drain outlet, concealed top supply and secret drain fitting in back wall near right end.

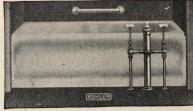


Fig. 77

Right end drain outlet, exposed top supply and secret drain fitting in front near right end.

Can be furnished with left end drain and fitting.



Fig. 81

Viceroy Enameled All Over One-piece Left Corner Apron Bath with slope end, for building ½ inch into walls and ½ inch into floor, fitted with built-in top supply and 2-inch secret drain fitting with ½-inch compression valves for iron pipe supply connections, shower with ball joint head and ½-inch concealed valves for iron pipe supply and riser connections, china handles and escutcheons, 28x44-inch curtain rail and 60x60-inch duck curtain.

Outlet in tub at left end.

Width over rim 30 inches Width of exposed rim 3½ inches Width inside 24 inches Floor to top of rim 17½ inches Depth inside, at outlet 17 inches

Nominal Sizesfeet	41/2	5	51/6	6
Length Over Rimin.	54	60	66	72
Approximate Shipping				
Weightpounds	480	540	585	690

Can be furnished for opposite corner with outlet at either right or left end, and supply and drain fitting or shower as shown with any of these built-in apron baths.

Enameled Iron Baths

Viceroy-Left Corner Pattern

NAME REGISTERED U. S. PATENT OFFICE

The views below show the various styles of installations for left corner Viceroy baths.

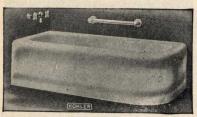


Fig. 82

Left end drain outlet, concealed top supply and secret drain fitting in left end wall.



Fig. 85

Right end drain outlet, concealed top supply and secret drain fitting in back wall near right end.



Fig. 83

Left end drain outlet, concealed top supply and secret drain fitting in back wall near left end.



Fig. 86

Right end drain outlet, exposed top supply and secret drain fitting at right end,



Fig. 84

Left end drain outlet, concealed top supply and secret drain fitting in back wall at center.

Can be furnished with right end

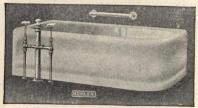


Fig. 87

Left end drain outlet, exposed top supply and secret drain fitting in front near left end.

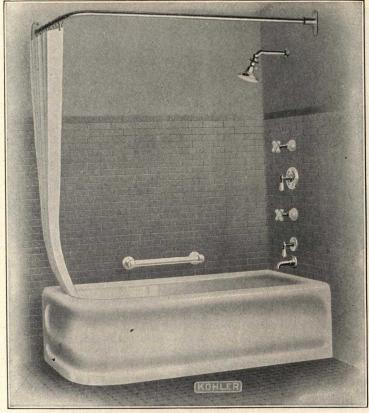


Fig. 91

Viceroy Enameled All Over One-piece Right Corner Apron Bath with slope end, for building $\frac{7}{8}$ inch into walls and $\frac{1}{2}$ inch into floor, fitted with combination built-in over rim supply, 2-inch secret drain, shower, $\frac{1}{2}$ -inch mixer and compression valves, for iron pipe supply and riser connections, china handles and escutcheons, $\frac{28x44}{1}$ -inch curtain rail and $\frac{60x60}{1}$ -inch duck curtain.

Outlet in tub at right end.

Width over rim 30 inches
Width of exposed rim 3½ inches
Width inside 24 inches
Floor to top of rim 17½ inches
Depth inside at outlet 17 inches

Nominal Sizesfeet	41/2	5	51/2	6
Length Over Rimin.	54	60	66	72
Approximate Shipping				
Weight pounds	480	540	585	670

Can be furnished for opposite corner, with outlet at either right or left end, and supply and drain fitting or shower as shown with any of these built-in apron baths.

Enameled Iron Baths

Viceroy-Right Corner Pattern

NAME REGISTERED U. S. PATENT OFFICE

The views below show the various styles of installation for right corner Viceroy baths.

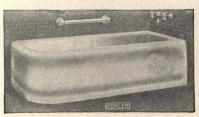


Fig. 92

Right end drain outlet, concealed top supply and secret drain fitting in right end wall.

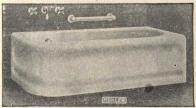


Fig. 95

Left end drain outlet, concealed top supply and secret drain fitting in back wall near left end.



Fig. 93

Right end drain outlet, concealed top supply and secret drain fitting in back wall near right end.

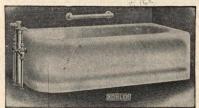


Fig. 96

Left end drain outlet, exposed top supply and secret drain fitting at left end.

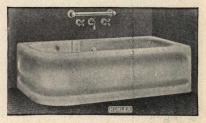


Fig. 94

Right end drain outlet, concealed top supply and secret drain fitting in back wall at center.

Can be furnished with left end drain outlet.

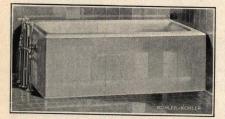


Fig. 97

Right end drain outlet, exposed top supply and secret drain fitting in front near right end. Utilla Enameled Iron Right Corner Bath with enameled front and end panels for building 1½ inches into walls and ½ inch into floor, fitted with built-in top supply and 2-inch secret drain fitting with ½-inch compression valves with china cross handles and escutcheons and china lever handle on drain.

Outlet in tub at right end.

Width over rim 29 inches Depth inside 17 inches Height from floor 17½ inches Height over all 18 inches Width of rim 2½ inches



Without Panels, Encased in Tile with Exposed Supply and Drain Fitting Fig. 102

end of the tub.

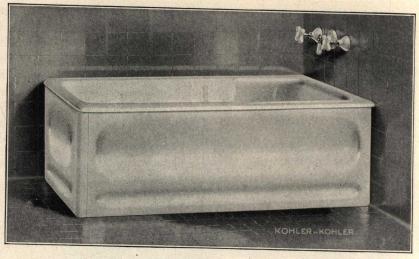


Fig. 101

Nominal Sizes	01/	
Approximate Shipping Weight, Tub Onlypounds	42	48
Transfer of the control of the contr	365	405

Can be furnished for left corner. Specify in ordering.

A Utilla bath tub can be installed in many places where there is not sufficient room for a bath of the usual size. Inside width and depth are the same as in longer baths and a long seating space is made available by a shortening of the slope in the end of the tub.

The Utilla bath is supplied with enameled apron for encasing or without apron for encasing with tile, marble or composition.

A raised ridge on the built-in rim to prevent leakage, makes the bath suited for installation with shower.

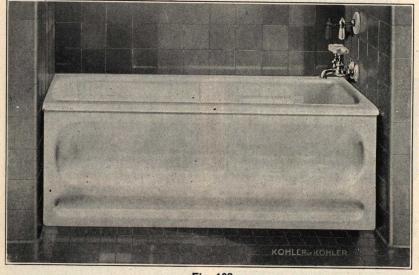


Fig. 103

Nominal Sizesfeet	31/6	4
Length Over Riminches	19	10
Approximate Shipping Weight, Tub Onlypounds	325	360
Al- 6	215 576 576	

Also furnished with outlet at left end. Specify when ordering.

A Utilla bath tub can be installed in many places where there is not sufficient room for a bath of the usual size. Inside width and depth are the same as in longer baths and a long seating space is made available by a shortening of the slope in the

The Utilla bath is supplied with enameled apron for encasing or without apron for encasing with tile, marble or composition.

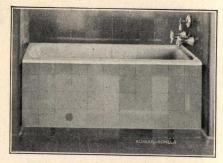
A raised ridge on the built-in rim to prevent leakage, makes the bath suitable for installation with shower.

Utilla Enameled Iron Recess

Bath with enameled front panel for building 1½ inches into walls and ½ inch into floor, fitted with over rim ½-inch double bath faucet with china cross handles and china escutcheons, 2-inch secret drain with china lever handle and china escutcheon.

Outlet in tub at right end.

Width over rim 29 inches Depth inside 17 inches Height from floor 17½ inches Height over all 18 inches Width of rim 2½ inches



Without Panels, Encased in Tile with Concealed Over Rim Supply Fitting Fig. 104



Fig. 111

Alcove Enameled All Over One-piece Apron Bath to tile into recess, for building $\frac{7}{8}$ inch into walls and $\frac{1}{2}$ inch into floor, fitted with combination built-in over rim supply and shower with side discharge head, $\frac{1}{2}$ -inch mixer and compression valves with connections for iron pipe supply, china handles and escutcheons, $\frac{1}{2}$ -inch built-in connected drain and overflow on side, curtain rail and duck curtain.

Outlet in tub at front end.

Width over rim 29 inches
Width of rim at front 3½ inches
Width of rim on sides 2½ inches
Height from floor to top of rim 17½ inches
Depth inside at outlet 17 inches

Nominal Sizefeet	31/2	4
Length over Riminches	431/2	491/2
Approximate Shipping Weightpounds	320	385

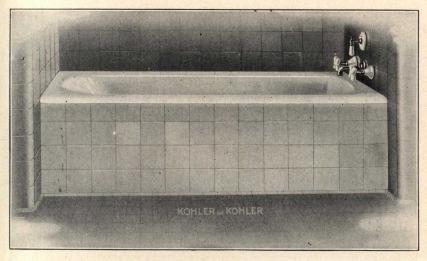


Fig. 112

Universal Enameled Iron Onepiece Recess Bath with slope end for building 1½ inches into walls and from floor to rim on front end, fitted with built-in over rim supply fitting with ½-inch compression valves for iron pipe china handles and escutcheons, 2-inch secret drain with china dial and handle.

Outlet in tub at right end.

Width over rim 30½ inches
Width of rim 3½ inches
Width inside 23½ inches
Bottom of bath to top of rim 18 inches
Depth inside at outlet 17 inches

Rim all around is uniform in size, shape and finish and any or all four sides of bath may be built in from floor to rim only. No tile or other material is regularly supplied with bath.

Nominal Sizes	feet	41/2	5	51/2	6
Length Over Rimii					
Approximate Shipping Weight	ounds	305	340	375	425

Can be furnished with outlet at opposite end and supply and drain fitting or shower as shown with any of these built-in apron baths.



Fittings at Left End Wall Fig. 113

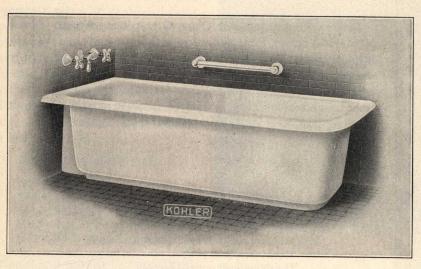


Fig. 121

Cardinal Enameled Iron Onepiece Left Corner Bath for building 7/8 inch into wall and 1/2 inch into floor, fitted with built-in top supply and 2-inch secret drain fitting with 1/2-inch compression valves with china cross handles and escutcheons and china lever handle on drain.

Outlet in tub at left end.

Width over rim 29 inches Depth inside 17½ inches Floor to top of rim 17½ inches Width of built-in rim 2 inches Width of exposed rim 3 inches

Nominal Sizes	41/2	5	51/2
Length Over Riminches	54	601/2	661/2
Approximate Shipping Weight, Tub Onlypounds	415	455	480

Can be furnished for opposite corner, with outlet at either right or left end and with supply and drain fittings shown with any of these built-in baths.

Also can be furnished all over enameled and with zinc, ivory or plain white exterior finish.



For Right Corner

Fig. 122

Cardinal Enameled Iron One-piece Recess Bath for building ½ inch into wall and ½ inch into floor, fitted with built-in over rim supply and 2-inch secret drain fitting with ½-inch compression valves with connections for iron pipe, china cross handles and escutcheons and china lever handle on drain.

Outlet in tub at right end.

The 5 and 5½-foot sizes only of recess baths are furnished in straight front pattern.

Width over rim 29 inches Depth inside 17½ inches Floor to top of rim 17½ inches Width of built-in rim 2 inches Width of exposed rim 3 inches

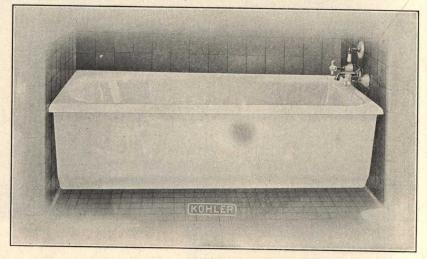


Fig. 123



Fittings at Left End Wall Fig. 124

Can be furnished with outlet at left end, and with supply and drain fittings shown with any of these built-in baths.

Also can be furnished all over enameled and with zinc, ivory or plain white exterior finish.

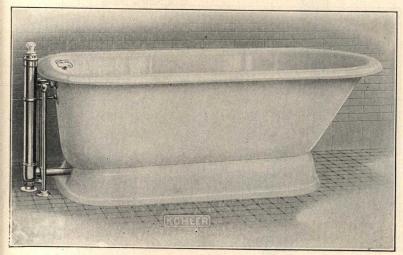


Fig. 131

Baroness Enameled Iron Bath on painted base, fitted with nickel-plated brass compression double bath faucet with indexed china handles, ½-inch nickel-plated offset supply pipes, and 2-inch nickel-plated secret drain with indexed china knob.

Width over rim 30 inches
Width of rim 3 inches
Depth inside, at outlet 17 inches

Nominal Sizes	4	41/2	. 5	51/2	6
Length Over Rim inches	48	54	60	66	72
Floor to Top of Rim	213/	221/2	221/2	221/2	213/
Approximate Shipping Weightpounds	320	A STATE OF THE STA	360		

Can be furnished with zinc, ivory or plain white exterior finish.

Also can be furnished with enameled base.

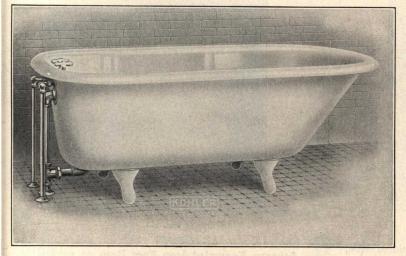


Fig. 132

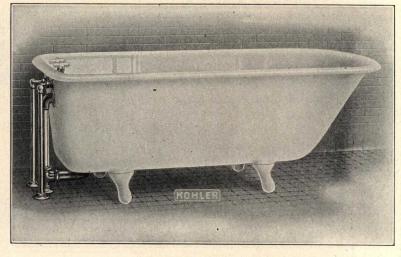
Colonna Enameled Iron Bath on legs, fitted with nickel-plated brass compression double bath faucet with indexed china handles, ½-inch nickel-plated offset supply pipes, and 1½-inch nickel-plated connected drain and overflow.

Width over rim 30 inches Floor to top of rim 22½ inches Width of roll rim 3 inches Depth inside, at outlet 17 inches

Nominal Sizes	feet	4	41/6	5	51/6	6
Length Over Rimir	nches	48	54	60	66	72
Approximate Shipping Weightpo	ounds	240	265	285	335	345

Can be furnished with zinc, ivory or plain white exterior finish.

Rival Enameled Iron Bath on legs fitted with nickel-plated brass compression double bath faucet with indexed china handles, ½-inch nickel-plated offset supply pipes and 1½-inch nickel-plated connected drain and overflow.



Width over rim 26 inches Width of roll rim 2 inches

Fig. 141

Nominal Sizes	4	41/6	5	51/6
Length Over Rim. inches	48	54	60	67
Height to Top of Rim	221/6	221/6	221/2	23
Depth Inside, at Outlet	17	17	17	175/
Approximate Shipping Weightpounds	240	255	285	335

Can be furnished with zinc, ivory or plain white exterior finish.

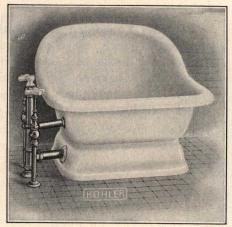


Fig. 142

Brevoort Enameled Iron Sitz Bath on painted base, fitted with nickel-plated brass bell supply and 2-inch secret drain fitting, ½-inch compression valves and supply pipes, china handles and knob.

Front to back of rim 32½ inches Width over rim 30¼ inches Width of rim 3 inches Floor to top of rim at front 15 inches Floor to top of rim at back 23½ inches Depth inside at outlet 10½ inches

Approximate Shipping Weight.....pounds 300

Can be furnished with zinc, ivory or plain white exterior finish.

Also can be furnished with enameled base if desired.



Fig. 143

Athearn Enameled Iron Foot Bath on painted base, fitted with nickel-plated brass bell supply and 2-inch secret drain fitting, ½-inch compression valves and supply pipes, china handles and knob.

Length over rim 24½ inches Width over rim 21½ inches Floor to top of rim 15¾ inches Width of rim 2½ inches Depth inside at outlet 11½ inches

Approximate Shipping Weight.....pounds 145

Can be furnished with zinc, ivory or plain white exterior finish.

Also can be furnished with enameled base if desired.

Badger Bath Drain and Overflow

Concealed connected drain and overflow for built-in tubs, 11/2-inch size, with lever operating through overflow.

Price.....each \$10.13

No panel is required for its installation. The few working parts consisting of chain and metal stoppers can be replaced through the front. The stopper is not concealed in the back wall, but is in the tub. It can be easily lifted for cleaning, and is operated by an indestructible bead chain which also tends to keep the tube clear, as its movement loosens any lint or sediment that may collect.



No. 14 Connected Drain and **Overflows**

1½-inch concealed heavy pattern connected drain and overflow with 1½-inch outside diameter tail piece, outlet of drain 11/2inch iron pipe male. Has metallic slip joint.

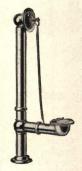
Price, No. 14 Rough Brass with Nickel-plated Trimmings . . each



Assembly for Horizontal Outlet

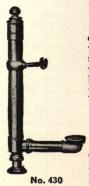


No. 1100 Connected Drains and Overflows



Nickel-plated adjustable connected drain and overflow, 13/8 inches, with chain and rubber stopper.

Standing Bath Drains and Overflows



N. P. 2-inch bath, drain and overflow with China knob for use outside of rim, with bath on feet or base.

No. 430

Price, No. 430each \$12.30

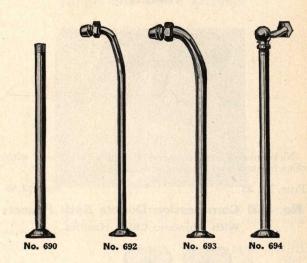
No. 433

Same as above except for Conred and Piercon baths. Price, No. 433

.....each \$12.80



Bath Supply Pipes



Price, No. 690 Seamless Straight Bath Supply Pipe, ½-inch Iron Pipeeach	\$2.05
Price, No. 691 Same as No. 690 except with Wheel	Ψ2.00
Handle Stopeach	4.50
Price, No. 692 Annealed Offset Supply Pipe with Universal Connection, %-inch O. D. Tubing each	1.90
Price, No. 693 Offset Supply Pipe, ½-inch Iron Pipe each	4.20
Price, No. 694 Ball Ell Offset Supply Pipe, 1/2-inch Iron	7.20
Pipeeach	3.35
Price, No. 695 Same as 694 except with Wheel Handle	
Stopeach	5.80

No. 3939 90° Female Bath Faucet Couplings



Price, No. 3939, Finished and Nickel-plated. per pair \$2.25

Nickel-plated Shampoo Connections

No. 1909

Nickel-plated brass hose

coupling with valve for bath supply spouts. Price, ½-inch...each \$3.55 " 34 " ... " 4.75



Nickel-plated brass hose coupling for over rim and top supply bath spouts. Price, 1/2-inch . . . each \$1.20 1.80 with Thread for Bath Cock each 1.20



brass spray, with rubber hose and hook.

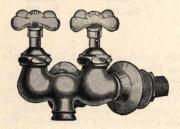
Price, as Described..... \$3.00

No. 33 Quick Compression Double Bath **Faucets**



Nickel-plated quick compression double bath faucet with china indexed front handles, without couplings.

No. 3831 Compression Double Bath Faucets With Four-arm China Handles



Price, No. 3831 Nickel-plated.....each \$7.80

Above price includes locknuts only. Supply couplings and hose spray couplings are extra.

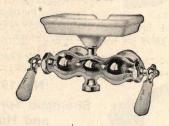
No. C-4600 Quaturn Quick Compression **Double Bath Faucets** With China Side Handles



Quaturn quick compression work has a standardized interchangeable working unit which is the same in all quaturn faucets. The seat of the faucet is renewable and there is no wear on the body. Quaturn faucets close with the pressure—no danger of automatic opening.

Price, Nickel-plated with Locknuts onlyeach \$7.59

No. 4700 Quaturn Quick Compression Bath **Faucets**

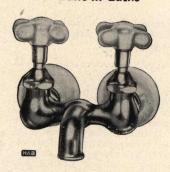


Nickel-plated Quaturn quick compression double bath faucet with side china index lever handles and china soap dishes. Connections for 34-inch iron pipe male. Couplings extra.

Price, No. 4700 each \$10.00

No. 30 Hofbil Over Rim Bath Fillers

For Built-in Baths

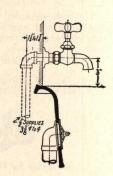


Nickel-plated over rim bath filler with male unions for ½-inch I. P. with 4-arm solid china handles and china escutcheons.

Price, No. 30, as Described. ea. \$6.50 " 30, with Four-ball China Indexed Handles and Nickel-plated Escutcheons.ea. 5.75

The Hofbil over rim bath filler can be furnished with expansion type shampoo connection at extra charge.

The Hofbil over rim bath filler is designed for use over built-in baths with regular drilling as shown in line drawing.



No. 13 Over Rim Bath Supply Fittings

Concealed compression over-rim bath supply fitting with 1/2-inch valves, nickel-plated nozzle and china handles and escutcheons.



Price....each \$12.00

H & B Concealed Bath Supply and Drain Fittings



Fig. 163

H & Bx13. over rim nozzle, compression bath supply fitting with ½-inchbuilt-in valves, nickel-plated spout, china cross handles and china escutcheons, with
H & Bx14,
1½-inch
heavy pattern rough brass connected drain

and overflow with 1½-inch O. D. tail piece; outlet of drain tee threaded male for 1½-inch pipe,
Exposed parts nickel-plated.

Fitting has metallic slip joints and can be assembled for horizontal outlet.

Specify make and style of tub when ordering.

Prices, No. x13and x14 Combination as Shown \$35.20

Exposed Bath Supply and Drains

For Legless Baths

Nickel-plated top nozzle bath supply
and standing drain fitting with compression valves, china handles and
knob, nickel-plated supply pipes and
nickel-plated escutcheons.

Specify make and style of tub when

ordering.

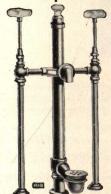
For Single Shell Baths

Price, No. 4 ½-Inch Valves, 2-Inch Drain each Price, No. 6 ¾-Inch Valves, 2½-Inch Drain each 40.00

For Double Shell Baths

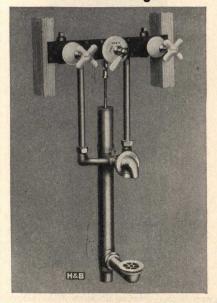
Price, No. 3 ½-Inch Valves, 2-Inch Drain each \$32.50 Price, No. 5 ¾-Inch Valves, 2½-Inch Drain each 41.00

Exposed Bath Supply and Wastes



Nickel-plated exposed top nozzle, bath supply and standing waste fitting with compression valves, nickel-plated supply pipes and china cross handles and knob and nickel-plated escutcheons, for outside of rim of enameled bath tubs on legs or base.

No. 7 Concealed Bath Supply and Drain Fittings



Compression concealed bath supply and standing drain fitting with ½-in. valves, china cross handle and china escutcheons, nickel-plated top supply nozzle, galvanized pipe connections between valves and spout, 2-in. concealed standing drain with 1½-inch outlet on drain tee and 1½-inch O. D. tail piece, china lever handle and escutcheon. Price, No. 7....each \$30.00

No. 115 Dececo All White China Bath Supply and Drain Fittings



Dececo all white china bath drain and supply fitting with concealed compression valves and top nozzle supply with china housing.

No	115HA	115HB	115HC	115HD
Wall	End	Side	End	Side
Sizeinches		1/2		
Price each	\$29.10	32.25	33.25	37.40

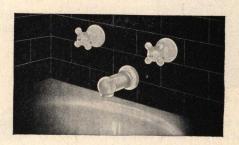
No. 120 Dececo All White China Bath Supply and Drain Fittings



Dececo all white china bath drain and supply fitting with concealed compression valves and over rim supply with china housing.

No	120HA	120HB	120HC	120HD
Wall	End	Side	End	Side
Sizeinches	1/2	1/2	3/4	3/4
Price each	\$31.65	35.80	35.80	39.85

No. 125 Dececo All White China Bath Supply Fittings



Dececo all white china supply fittings with over rim nozzle with china housing.

No.	125HA	125HB
Sizeinches	1/2	3/4
Price each	\$15.85	21.60

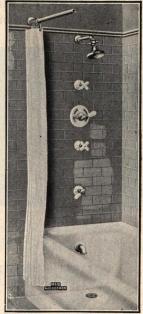


Fig. 181 PATENTED

Niedecken Combination Shower, bath supply and drain with ½-inch concealed type Niedecken mixer with china dial, compression shower and bath control valves with china handles, ½-inch shower arm, 4-inch cast brass adjustable shower head, top supply nozzle and 2-inch concealed bath drain with china lever handle.

Approximate Shipping Weight
Curtain rail, snaps and curtain extra.

This fixture is especially designed for use with built-in type of bath tub.



Triplex Combination Shower, Bath Supply and Drain with concealed compression valves and china cross handles and china escutcheons, two-way control valve with china lever handle and china escutcheon, vitreous china shower head with nickel-plated arm and china escutcheon, china over rim spout, lift drain with china lever handle operating through overflow.

Approximate Shipping Weight pounds 50

Fig. 182

This fixture is designed for simplicity and economy, as one hot and one cold valve, connected to a two-way valve, supply the shower and the tub, eliminating the use of two extra shower valves.

The two-way valve is so constructed that the shower and tub cannot be shut off at the same time while the supply valves are open, which prevents water from backing up in the system.



Fig. 183

Niedecken Nickel-Plated Shower with ½-inch concealed type Niedecken Mixer (patented) with china dial and handle, ½-inch shower arm, lever handle flow control, and 4-inch cast brass adjustable shower head.

Approximate Shipping Weightpounds 11

Regularly furnished with china dial or with nickel-plated engraved dial, if desired.

The parts of the mixer are easily accessible. If, after long wear, repairs become necessary or it is necessary to rewasher, only a screwdriver is required for the work.



Fig. 184

Niedecken Nickel-Plated Shower with ½-inch concealed type Niedecken Mixer (patented), concealed control valve with china handle, ½-inch shower arm with 4-inch cast brass adjustable shower head and shampoo.

Approximate Shipping Weight.....pounds 20

This shower may be furnished with china dial or with nickel-plated engraved dial.

Supplies to mixer must be fitted with check valves.

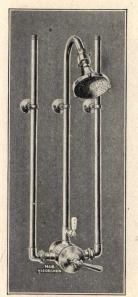


Fig. 191

Niedecken Nickel-Plated Shower with ½-inch exposed type Niedecken Mixer (patented), supply pipes to ceiling, ½-inch gooseneck riser pipe, lever handle flow control, and 4-inch cast brass adjustable shower head. Supplies are 9 inches from center to center.

Approximate Shipping Weight.....pounds 25

This shower combination may be furnished with supplies to wall or floor; also with loose key stops on supply pipes.

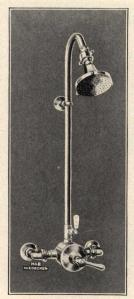


Fig. 192

Niedecken Nickel-Plated Shower with ½-inch exposed type Niedecken Mixer (patented), supply connections to wall, ½-inch gooseneck riser pipe, lever handle flow control, and 4-inch cast brass adjustable shower head. Supplies are 9 inches from center to center.

Approximate Shipping Weightpounds 16

This shower combination may be furnished with supplies to ceiling or floor, also with loose key stops on supply pipes.



Fig. 193

Uno Niedecken Shower for side installation with ½-inch exposed type Niedecken Mixer (patented), ½-inch riser pipe, shower arm, flow control with 30-degree elbow connection, 4-inch cast brass shower head, 24x36-inch curtain ring with ceiling support and duck curtain.

Approximate Shipping Weight, Shower Only... pounds 60
The Uno Niedecken Shower can be installed at either end or side of tub and assembled for shower head and mixer at

either right or left.

This fixture is designed especially for installation over the ordinary bath on feet which is already in place.



Fig. 194

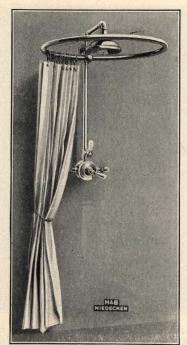
Parkway Shower and Bath Combination consisting of ½-inch nickel-plated bath supply spout with handle control, ½-inch nickel-plated riser pipe, 3-inch nickel-plated Marvel shower head, adjustable ball joint and nickel-plated wall plate.

The Parkway Shower Combination is designed to meet the needs of a shower where an over-the-rim tub filler has been installed without a shower. By unscrewing the old spout and replacing it with the Parkway, a neat and moderate priced installation can be obtained without tearing down the wall.

 Size
 inches
 ½
 3/4

 Approximate
 Shipping
 Weight

 pounds
 12
 15



Niedecken Nickel-Plated Shower with ½-inch exposed type Niedecken mixer, nickel-plated dial and lever handle, flow control with china handle, ½-inch supply connections to wall, nickel-plated riser pipe, rigid shower arm, 6-inch shower head, 30-inch curtain ring, duck curtain, snaps and hold-back hock.

Approximate Shipping Weight.....pounds 40
Also can be furnished with supply pipes to floor.

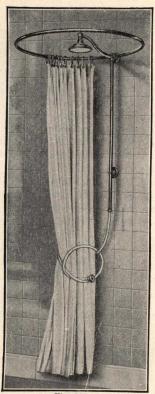


Fig. 202

Portable Shower with nickel-plated riser pipe, 24-inch curtain ring, offset shower arm, 4½-inch shower head with removable face, white duck curtain and hooks, rubber hose. Approximate Shipping Weight.....pounds 10



Fig. 203

Nickel-Plated Concealed Compression Valve Shower with ½-inch valves, swivel discs, renewable seats, china handles and escutcheons, ½-inch shower arm and 4-inch cast brass adjustable shower head.

Riser pipe is not furnished.

Approximate Shipping Weight.....pounds 15

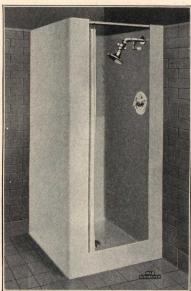


Fig. 204

PATENTED

Niedecken Shower Stall with 1/2-inch special concealed type Niedecken shower integral with stall, Niedecken mixer with china dial and handle, nickel-plated shower arm with lever handle flow control and 4-inch cast brass adjustable shower head, curtain rail, duck curtain and hooks, nickel-plated strainer for 2-inch drain. Height of stall, 6 feet.

Door openings and hallways determine the maximum size of stall. After installation the interior and exposed exterior must be finished with waterproof enamel paint.

No		M30	MAO	
Width, Outsideinches		32	36	
Depth, Outsideinches	32	32	36	
Approximate Shipping Weight pounds	350	375	425	

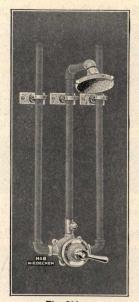


Fig. 211

Niedecken Industrial Type Shower with 1/2-inch exposed type rough nickel-plated Niedecken Mixer (patented), lock shield flow control, wall support, 4-inch cast brass rough nickel-plated shower head, 30-degree elbow connection and pipe supports.

Piping is not furnished.

Approximate Shipping Weight.....pounds 11 Also furnished with concealed type rough Niedecken Mixer

with rough nickel-plated dial.

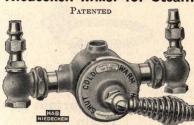
This shower is especially designed for industrial plants. gymnasiums, etc., where a highly polished nickel-plated fixture is not desired.

Niedecken Mixers Rough Nickel-plated—With Brass Lever Handle Tapped for Iron Pipe Concealed Mixers



No.	Size Inches	Price Each	No.	bize Inches	Price Each
N.R. 1	1/2	\$18.40	N.C.R. 1	1/2	\$16.65
N.R. 2	1/2 3/4	24.55	N.C.R. 2	1/2 3/4	23.70
N.R. 3	1	47.35	N.C.R. 3	1	47.35

Niedecken Mixer for Steam

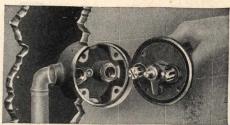


Suitable for showers, wash sinks, etc., where steam is available and hot water is not. The discharge outlet must never be fitted with shutoff stop.

No	NT D C 1	NDOON	TDG
		N.R.O. Z I	V.R.D. 3
Sizeinches	1/6	3/1	1
		/生	-
Price, Rough Nickel-Plated.each	\$29.00	36.00	61.65

Niedecken Mixers

PATENTED

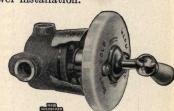


Showing Accessibility of Mixer

The Niedecken Mixer is a type of shower control thoroughly efficient, immediate in action, and gives perfect control under all conditions.

All working parts of the Niedecken Mixer, even to the valve seats, can be easily replaced if it becomes necessary after years of use. In action the Mixer is such as to make changes in temperature gradual. Starting with cold, the temperature can be increased until the desired degree is reached. Cold water is admitted first and hot water gradual. ally added. As the hot water increases, the cold water is reduced, thus making this an economical device in regard to the quantity of hot water used—an important point to consider in large shower installation.

The Mixer can be set to a fixed maximum temperature, preventing waste of hot water. Ideal results can be obtained when the pressures of cold and hot water are the same. The Mixer can be furnished to take care of great differences in pressure if specified when order-



N. C. 1 Concealed Type

Showers should always be installed with the Mixer on the side and near the front of the stall so that adjusting of water temperature can be done before entering. For hotels and residences it is advisable to place the shower head 5 feet 6 inches sabove the floor, making it possible to take a bath without wetting the head.

The most important matter to consider in planning a shower installation is the water supply. The main feeders or supplies to a battery of showers must be of ample size to take care of the full battery of showers and all other fixtures they are supposed to supply.

It is always advisable to have the supplies to the Mixer fitted with loose key stops; they facilitate the rewashering of the Mixer and can be used to reduce excessive pressure.

Showers that are not equipped with valves controlling flow of water from the shower head are furnished with

N. F. 1 Exposed Type

flow control.

When the posi-tive stop or shutoff is placed in discharge side of Mixer, the supplies must be fitted with check valves.

Check valves prevent hot water backing into cold water supply when Mixer is not closed and the shower simply shuts off by stop in discharge from Mixer.

Exposed Niedecken Mixers Finished and Nickel-Plated

3
0
)
)
)
)

Concealed Niedecken Mixers

	With China Dial and	Handle		
No		N.C. 1	N.C. 2	NC3
Connections	inches	1/2	3/4	1
Price	each	\$21.00	\$28.00	\$52.80
Add for Loose	Key Stopsper pair	7.35	10.00	402100

No. 1242 Compression Shower Valves

Built-in compression shower valve, Loxon china handle and bell china adjustable escutcheon.



Sizeinches ½
Price, No. 1242...each \$4.40

No. 1240 Compression Shower Valves



Built-in compression shower valve with by-pass, swivel disc stem and renewable seat, china cross handle and bell china escutcheon.

Size.....inches 1/2 Price, No. 1240 ... each \$4.40

Niedecken Shower Flow Control Valves

PATENTED



Lever Handle Type Fig. 221 Permits control of water from showerhead. Concealed types of Niedecken Showers have flow control placed in shower arm. For residence use valve is lever handle type but for hotels and institutions use of lock shield type is suggested. Exposed types of showers have flow control valve placed immediately at outlet of mixer and is either lever handle or

lock shield type, depending on use shower is intended for.

Flow control valve is not a positive shut-off, consequently check valves are not required in supplies to the mixer.



No. 150 Dececo All White China Shower Heads

(PATENTED)

With encased shower arm.

Diam. Head. inches 4½ Price, No. 150 . each \$17.50

No. 700 Vitreous China Shower Heads



This head overcomes the objectionable corroding common to the brass head and requires no polishing to keep clean. Diameter of face, 4½ inches; n. p. brass spud, ½ inch. Price, No. 700.....each \$2.40



No. 551 Shower Heads

Nickel-plated cast brass shower head with adjustable ball joint for ½-inch iron pipe.

Size.....inches 4 5
Price No. 551...each \$2.50 3.60

No. 10 Curtain Rails

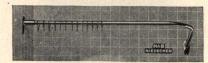


One-inch O.D. nickel-plated tubing with flanges and curtain hooks. Give length when ordering.

Price, No. 10 for Stalls...... each \$3.70

" " Recess Tubs..... " 6.00

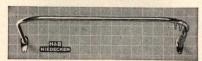
No. 11 Curtain Rails



Nickel-plated corner curtain rail, 28x44 inches.

Price, No. 11.....each \$14.00

No. 13 Curtain Rails



Nickel-plated U shaped curtain rail.
Price, No. 13.....each \$24.00

White Duck Shower Curtains

0010000000000		ror	Shower	Stalls	
	No.	Fixture Size Ft.	CURTAIN, Width	INCHES Length	Price Each
sale Libraria	1	21/2	36	75	\$5.40
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	3	42	75	6.40
医侧侧基型的 1.1 2	3	31/2	48		7.20
COLUMN TO SERVICE STATE OF THE	4	4	54		8.00
		For	Recess	Baths	
	5	41/2	60	72	\$9.00
	6	5	66	72	10.00
	7	$5\frac{1}{2}$	72	72	10.40
	8	6	78	72	11.20
The second second		For	Corner	Baths	
	9	41/2	84	72	\$12.00
	10	5	90	72	13.20
	11	51/2	96	72	14.00
17 在 基本域 ETA	12	6	102	72	15.00
1256 26 M2	13	42x27-inc	h 72	72	10.00
	14	42x27-inc	h 96	79	14 00

No. 1736 Curtain Hooks No. 1737 Curtain Snaps





Price, N. P....per doz. \$.80 Price, N. P...per doz. \$.80 No. E260 Hold Back Curtain Hooks

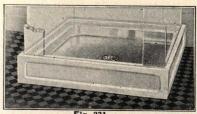


Solid cast brass hold back hook. Poished and nickel-plated.
Price, No. E260each \$.79

No. E262 Hold Back Curtain Hook and Chain



Chain type hold back hook polished and nickel-plated.
Price No. E262 ... each \$.45



Porcelain Shower Receptor with center outlet, nickelplated brass outlet strainer and connection for 2-inch lead pipe.

Size over all 36x36 inches
Size over all 42x42 inches
Size
Approximate Shipping Weight
All sides paneled and top grooved for shower enclosure.

Prices on porcelain shower receptors are based on kiln-run ware. An extra charge will be made for special selection.

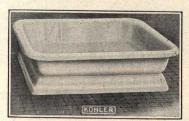


Fig. 232

Cascade Enameled Iron Shower Receptor on base, with center outlet, nickel-plated brass strainer, with outlet for 2-inch lead or iron pipe for solder or calked joint.

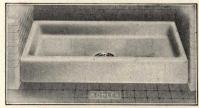
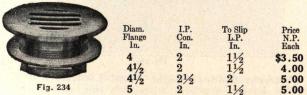


Fig. 233

Cataract Enameled Iron Recess Shower Receptor to build 1¼ inches into walls and ½ inch into floor with apron, with center outlet, nickel-plated brass strainer with outlet for 2-inch lead or iron pipe for solder or calked joint.

Size over rim 36x36 inches	Depth inside 3¾ inches		5 inches
Size over rim 42x42 inches	Depth inside 3¾ inches		5 inches
SizeApproximate Shipping		36x36 200	42x42 250

Cast Brass Strainers



No. 246 Adjustable Ball Joints



Nickel-plated brass adjustable ball joint, ½-inch iron pipe male and female connection.

Price, No. 246.....each \$1.22

C & S Glass Shower Doors





Fig. 235

Fig. 236

C & S shower doors are made from heavy nickel silver or nickel-plated brass and constructed so as to make them absolutely waterproof throughout.

C & S doors have glass of best quality polished plate, ¼ inch thick, imbedded in pure rubber to prevent breakage.

A heavy nickel silver continuous piano hinge is used on all C & S doors unless otherwise ordered.

A cut glass knob of best quality is fastened to outside rail of door and a metal pull of nickel silver on the inside. A strong and substantial spring catch is mortised in the door, keeping it properly closed when stall is in use.

The bottom rail of door has a metal water shed attached to the inside of same to carry all drippings into the receptor. To prevent any splash from getting out underneath the door there is attached a metal bound rubber strip that extends down and onto the sill or rim of receptor.

All C & S Shower doors are furnished with heavy nickel silver or nickel-plated brass angles having metal bound rubber attached to the rabbet for door to strike against, thereby preventing any splash getting out of the stall and into the bathroom proper.

Doors are perfectly fitted to the angles and all necessary screws, lead plugs, etc., required to hang same to the jambs are furnished with each order.

C & S Shower Doors are standardized to fit openings: 27x78 inches, 25x74 inches, 26x76 inches and 24x72 inches. All other sizes are special and quotations furnished on application.

The following rules should be carefully observed when ordering:

Give exact size of openings between jambs, both in height and width.

Whether nickel silver or nickel-plated brass door.

Whether door is to have grille vent or without.

Whether door is to be hinged on right or left jamb when facing stall.

Whether door is for tile or marble stall. Marble jambs should be at least 1½ inches thick.

A detail drawing showing construction furnished on application.



Vitreous China Straight Front Lavatory with oval basin, integral supply nozzle with hooded overflow, anti-splash rim, plain square vitreous china pedestal and nickel-plated wall supports, fitted with compression supply valves with china cross-arm handles and escutcheons, pop-up drain fitting with china knob and escutcheon, nickel-plated supply pipes to wall with china handle stop valves and china escutcheons and nickel-plated P trap with china escutcheon.

		inches		12x16½ 12x16½	
Dian	ALALI.	inches	Dasin	LZX ID1/0	inches

Size inches Approximate Shipping Weight pounds	20x24 170	22x27	

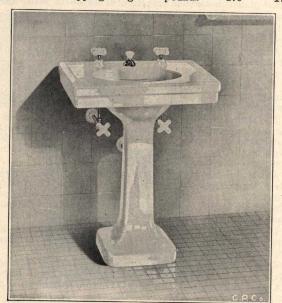


Fig. 242

Vitreous China Straight Front Lavatory with oval basin, hooded overflow, anti-splash rim, plain square vitreous china pedestal, nickel-plated wall supports, nickel-plated combination supply and pop-up waste fitting with china cross-arm handles and china escutcheons, nickel-plated supply pipes to wall with china handle stop valves and china escutcheons, 1½-inch nickel-plated P trap and china escutcheon. china escutcheon.

	Slab 20x24 inches Slab 22x27 inches	Basin 12x16½ i Basin 12x16½ i		
Size Approximate	e Shipping Weigh	tpounds	20x24 170	22x27 175



Fig. 243

Vitreous China Straight Front Lavatory with oval basin, integral supply nozzle, hooded overflow, anti-splash rim, vitreous china leg with rod and nickel-plated wall brackets, fitted with compression supply valves with china with china knob and escutcheons, pop-up drain fitting with china knob and escutcheon, %-inch nickel-plated supply pipes to wall with china handle stop valves and china escutcheons, nickel-plated P trap and china escutcheon.

Slab 20x24 inches Basin 12x161/2 inches

Sizeinches	20x24
A	LOALI
Approximate Shipping Weight pounds	125
Transfer of the second of the	TOO



Fig. 244

Vitreous China Straight Front Lavatory with oval basin, hooded overflow, anti-splash rim, vitreous china leg with rod and nickel-plated wall supports, nickel-plated combination supply and pop-up drain fitting with china cross-arm handles and china escutcheons, nickel-plated supply pipes to wall with china handle stop valves and china escutcheons, 1½-inch nickel-plated P trap and china escutcheons. cutcheon.

	inches	10x141/4 12x161/2	

Sizeinch	es	18x20	20x24
Approximate Shipping Weight poun	ds	125	140



Fig. 251

Vitreous China Straight Front Lavatory with integral back, oval basin with hooded or plain overflow and antisplash rim, vitreous china leg with rod and concealed hang-er, nickel-plated compression faucets with china cross-arm handles, pop-up drain fitting with china knob and escut-cheon, nickel-plated supply pipes to wall with loose key stop valves and china escutcheons, nickel-plated P trap and china wall escutcheon.

Slab 18x20 inches Slab 20x24 inches Basin 10x14¼ inches Basin 12x16½ inches Back 6 inches Back 6 inchesinches 18x20 20x24 Approximate Shipping Weight pounds 140

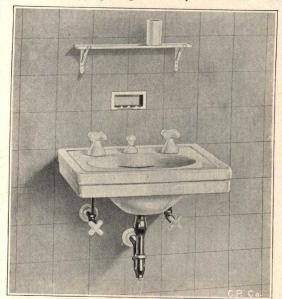


Fig. 252

Vitreous China Straight Front Lavatory with oval basin, integral supply nozzle, hooded overflow and antisplash rim, concealed brackets with support built in wall, compression supply valves with china cross-arm handles and escutcheons, pop-up drain fitting with china knob and escutcheon, nickel-plated supply pipes to wall with china handle stop valves and escutcheons, nickel-plated P trap and china wall escutcheon.

Slab 20x24 inches B	asin 12x16½ inches
Size Approximate Shipping Weight.	inches 20x24



Fig. 253

Vitreous China Straight Front Lavatory with integral back, oval basin, hooded or plain overflow, anti-splash rim and concealed hanger, nickel-plated compression faucets with china cross-arm handles, pop-up drain with china knob and escutcheon, nickel-plated supply pipes to wall with loose key stop valves and china escutcheons, nickel-plated P trap and china wall escutcheon.

Slab 18x20 inches Slab 20x24 inches Basin 10x14¼ inches Basin 12x16¼ inchesinches 18x20 20x24 Approximate Shipping Weight.....pounds 110 120



Fig. 254

Vitreous China Round Front Space-Saver Lavatory with integral back, oblong basin, hooded or plain overflow, anti-splash rim and concealed hanger, nickel-plated compression faucets with 4-ball brass china index handles, 3%-inch nickel-plated supply pipes to wall with loose key stop valves and china wall escutcheons, nickel-plated P trap with china escutcheon and nickel-plated P. O. plug, chainstay with chain and rubber stopper. with chain and rubber stopper.

	Length of back 24 inches Basin 9½x16¾ inches	Wall to front 15 inches Height of back 5 inches	
Size Approxim	nate Shipping Weight.	inches	15x24 105



Fig. 261

Filmore Enameled Iron Pedestal Lavatory with slab, D pattern basin with patent overflow, rear outlet and apron all in one piece, enameled iron pedestal, nickel-plated combination supply and lift drain fitting with compression valves, china cross handles, china knob and china escutcheons, 3/s-inch supply pipes to wall with china indexed stops, and 1/4-inch nickel-plated P trap.

 Slab 20x28 inches
 Basin 12x15 inches
 Apron 4 ½ inches

 Slab 24x34 inches
 Basin 14x18 inches
 Apron 4 ½ inches

 Size
 inches
 20x28
 24x34

 Approximate Shipping Weight
 pounds
 170
 200

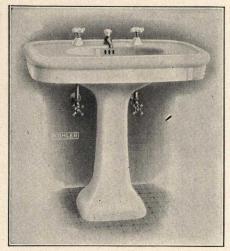


Fig. 262

Belmore Enameled Iron Pedestal Lavatory with slab, D pattern basin with patent overflow, rear outlet and apron all in one piece, enameled iron pedestal, nickel-plated combination supply and lift drain fitting with compression valves, china cross handles, china knob and china escutcheons, %-inch nickel-plated supply pipes with china indexed stops, and 1½-inch nickel-plated P trap.

 Slab 20x28 inches
 Basin 12x15 inches
 Apron 4½ inches

 Slab 24x34 inches
 Basin 14x18 inches
 Apron 4½ inches

 Size
 inches
 20x28
 24x34

 Approximate Shipping Weight
 pounds
 175
 210

 Can be furnished with fittings shown on any other layatories.



Fig. 263

Columbia Enameled Iron Pedestal Lavatory with square slab, D pattern basin with rear outlet, patent overflow and apron all in one piece, enameled iron pedestal, nickel-plated combination compression supply and lift drain fitting with china cross handles, china knob and escutcheons, sinch nickel-plated supply pipes to wall with stop valves and 1½-inch nickel-plated P trap.

 Slab 20x24 inches
 Basin 12x15 inches
 Apron 5 inches

 Slab 22x27 inches
 Basin 14x18 inches
 Apron 5 inches

 Size
 inches
 20x24
 22x27

 Approximate Shipping Weight
 pounds
 175
 200

 Can be furnished with fittings shown on any other lava



Fig. 264

Bevo Enameled Iron Built-in Lavatory for building %-in. into wall, with two depressed soap cups cast in slab, D pattern basin with patent overflow and rear outlet, apron and concealed hanger flange all in one piece, enameled iron hexagonal leg, combination supply and lift drain fitting with compression valves with china cross handles and china escutcheons, and china knob on drain, 3/2-inch nickel-plated supply pipes to wall with china indexed stops and 11/4-inch nickel-plated P trap.

Slab 19x24 inches Basin 12x15 inches Apron 5 inches

Approximate Shipping Weight.....pounds 160
Can be furnished with fittings shown on any other lavatory.



Emmet Enameled Iron Lavatory with slab, D pattern basin with rear outlet, patent overflow, back and apron all in one piece, concealed wall hanger, nickel-plated compression faucets with china cross handles, china handle lift

waste through slab, %-inch nickel-plated supply pipes to wall, 1¼-inch nickel-plated P trap.

Emmet Slab 18x24 inches Basin 10½x16½ inches Back 12 inches Basin 12 x16½ inches Back 12 inches Basin 14x18 inches Back 12 ...inches 18x24 20x24 22x27 Approx. Ship. Weight. pounds 110 125 140 Can be furnished with fittings shown on any of the other

lavatories.



Fig. 272

Cecil-Bretton Enameled Iron Lavatory with slab, D pattern basin with rear outlet, patent overflow, depressed soap dish, cast in slab, draining into patent overflow, back and apron all in one piece, concealed wall hanger, nickel-plated compression faucets with china cross handles, 3%-inch nickel-plated supply pipes to wall, 11/4-inch nickel-plated P trap, drain plug and chain stay bolt.

Cecil Bretton Bretton Slab 17x19 inches Slab 18x21 inches Slab 19x24 inches Basin 10½x14¾ in. Basin 11x15 inches Basin 12x15 inches Back 6 inches Back 8 inches Back 10 inches inches 17x19 18x21 19x24

Approximate Shipping Weight pounds 75 90 105
Can be furnished with any other fittings, except the 17x19-inch which cannot be furnished with combination fittings or lift drain through slab.



Fig. 273

Narobol Enameled Iron Lavatory with slab, basin with patent overflow, back and apron all in one piece, concealed wall hangers, nickel-plated compression faucets with china cross handles, lift drain with china handle through back, \(^3\)\s_-inch nickel-plated supply pipes to wall, and 1\(^1\)\square-inch nickel-plated P trap.

Slab 14x26 inches Basin 93/4x161/2 inches Approximate Shipping Weight.....pounds 80 Cannot be furnished with lift drain through slab, secret

drain or combination fittings.

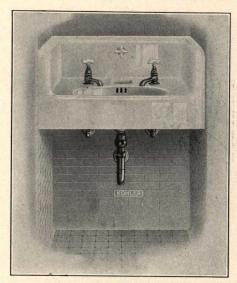


Fig. 274

Alco Enameled Iron Recess Lavatory with slab, D pattern basin with rear outlet, depressed soap dish cast in slab, draining into patent overflow, back, end pieces and apron all in one piece, concealed wall hangers, nickel-plated compression faucets with chain cross handles, %-inch nickel-plated supply pipes to wall, lift drain with china handle for operating through back, and 11/4-inch nickel-plated P trap.

Slab 18x24 inches Slab 20x26 inches Basin 12x15 inches Basin 12x15 inches Back 7½ inches Back 8 inches

Size inches 18x24
Approximate Shipping Weight pounds 120 Size... 20x26 Can be furnished with fittings shown on any other lavatories.

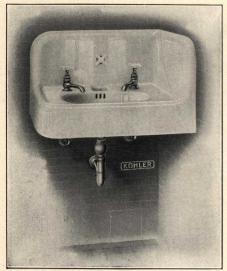


Fig. 281

Abury Enameled Iron Corner Lavatory with slab, D pattern basin with rear outlet, enameled soap dish cast in slab, draining into patent overflow, back, right end and apron all in one piece, concealed wall hangers, nickel-plated compression faucets, with china cross handles, 3/6-inch nickel-plated supply pipes to wall, lift drain with china cross handle through back and 11/4-inch nickel-plated P trap.

Also furnished with fittings as shown on other lavatories.



Fig. 282

Osborne Enameled Iron Corner Lavatory with D pattern basin with rear outlet, depressed soap dish cast in slab, draining into patent overflow, back and apron all in one piece, concealed wall hangers, nickel-plated compression faucets with china cross handles, 3/8-inch nickel-plated supply pipes to wall, 11/4-inch nickel-plated P trap, drain plug and chain stay bolt.

Length on sides 19 inches Basin 10½x14¾ inches Back 8 inches

Approximate Shipping Weight.....pounds 95

Can be furnished with fittings shown on any other lavatories except combination supply and secret drain fitting.



Fig. 283

Kenneth Enameled Iron Corner Lavatory with slab, D pattern basin with pa ent overflow and rear outlet, back and apron all in one piece, concealed wall hangers, nickel-plated combination supply and lift waste fitting with compression valves, china cross handles and china escutcheons, 3%-inch nickel-plated supply pipes and 1¼-inch nickel-plated P trap.

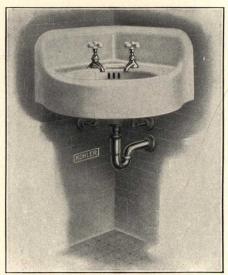


Fig. 284

Kenneth Enameled Iron Corner Lavatory with slab, D pattern basin with rear outlet, depressed soap dish cast in slab, draining into patent overflow, back and apron all in one piece, concealed wall hangers, nickel-plated compression faucets with china cross handles, 3/8-inch nickel-plated supply pipes to wall, 11/4-inch nickel-plated P trap, drain plug and chain stay bolt.

Length on sides 16½ inches Basin 11x14 inches Back 6 inches

Can be furnished with fittings shown on any other lavatories except combination supply and secret drain fitting.



Fig. 291

Clare Enameled Iron Lavatory with slab, D pattern basin with rear outlet, depressed soap cup cast in slab, draining into patent overflow, and back all in one piece, concealed wall hanger, nickel-plated compression faucets with china cross handles, %-inch nickel-plated supply pipes to wall, 1½-inch nickel-plated P trap, drain plug and chain stay bolt.

Slab 18x21 inches Basin 101/2x161/2 inches Back 8 inches

Approximate Shipping Weight pounds 70

Can be furnished with fittings shown on any other lavatories.



Fig. 292

Moore Enameled Iron Lavatory with slab, D pattern basin with rear outlet, depressed soap dish cast in slab, draining into patent overflow, and back all in one piece, concealed wall hanger, nickel-plated compression faucets with china cross handles, 3/s-inch nickel-plated supply pipes to wall, 11/4-inch nickel-plated P trap, drain plug and chain stay bolt.

Slab 17x19 inches Basin 10½x14¾ inches Back 6 inches

Approximate Shipping Weight.....pounds 65

Can be furnished with fittings shown on any other lavatories except combination fitting or lift drain through slab.



Fig. 293

Kennedy Enameled Iron Corner Lavatory with slab, center outlet oval basin, depressed soap dish cast in slab, draining into patent overflow, and back all in one piece, concealed wall hangers, nickel-plated compression faucets with china cross handles, 3/8-inch nickel-plated supply pipes to wall, 11/4-inch nickel-plated P trap, drain plug and chain stay bolt.

Length on sides 16½ inches Basin 11x14 inches Back 6 inches

Approximate Shipping Weight.....pounds 70

Can be furnished with fittings shown on any other lavatories except combination supply and secret drain fitting.



Fig. 294

Bijou Enameled Iron Corner Lavatory with slab, center outlet, reund basin, depressed soap dish cast in slab, draining into patent overflow, and back all in one piece, concealed wall hangers, nickel-plated compression faucets, with fourball handles and china indexes, 3%-inch nickel-plated supply pipes to wall, 1½-inch nickel-plated P trap, drain plug and chain stay bolt.

Length on sides 16 inches Basin 1134 inches Back 51/2 inches

Approximate Shipping Weight.....pounds 60

Can be furnished with fittings shown on any other lavatories except combination supply and secret drain fitting.



Fig. 301

Sanita Enameled Iron Dental Lavatory with slab, back, oval basin and depressed tumbler holder all in one piece, concealed hanger, nickel-plated compression basin faucet with china index, 1¼-inch P trap and special drain plug.

Slab 12x13 inches Basin 7x9 inches Back 5 inches

Approximate Shipping Weight.....pounds 30

Can be furnished enameled upper surface only, or enameled all over.



Fig. 302

Enameled Iron Dental Lavatory with slab, oval basin, apron and depressed tumbler holder, enameled iron pedestal, nickel-plated compression basin faucet with china cross handle, 1¼-inch P trap and special drain plug.



Fig. 303

Beaufort Enameled Iron Barbers' Lavatory with four depressed soap cups cast in slab, draining into basins, on two enameled pedestals. Fitted with quick acting compression shampoo mixing faucet with hose and spray, compression faucets, ³/₈-inch special combination hot and cold water supply pipes, supplying basin and shampoo faucets, drain plugs, 1½-inch deep seal P traps, special double connection, 1½-inch drain to floor and chain stay bolts.

Slab 26x46 inches Basins 14x18 inches Apron 5 inches



Lavatory Supply and Waste **Fittings**

No. 17

PATENTED

Combination lavatory supply and waste fitting with compress-ion valves, china handles, china escutch-eons and china knob.

For enameled iron or vitreous china lavatories.

Price, No. 17each \$25.00

No. 627H Dececo All White Lavatory **Fittings**



Dececo all white china lavatory supply and drain fitting with concealed compression valves for integral spout lava-

Price, No. 627Heach \$18.50

No. 628 Dececo All White Lavatory **Fittings**



Dececo all white china lavatory supply and drain fitting with concealed compression valves.

For any style vitreous or enameled iron lavatory. Price, No. 628 each \$20.85

No. 632 Dececo All White Lavatory **Fittings**



Dececo all white china lavatory supply and waste fitting with encased compression faucets and waste. Price, No. 632HA with Compression Basin Faucets

..each \$20.00 Price, No. 632HB with Self-Closing Basin Faucets

.....each 25.00



No. 480 Teck Lavatory Supply and Drain Fittings

Combination Supply and Pop-Up Drain Fitting, with nickel-plated spout, nickel silver pop-up drain, compression valves with encased washers, china cross handles, china escutcheons and china knob. Adjustable for drillings for enameled iron or vitreous china levatories china lavatories.

Price, No. 480, 31/2-Inch Spout each \$20.00 Price, No. 482, 5-Inch Spout for Hooded Overflow.each 21.00 Supply valves rewashered from top of lavatory.

No. 484 Teck Lavatory Supply and Drain **Fittings**

Combination Supply and Pop-Up Drain Fitting, with china spout, nickel silver pop-up drain, compression valves with encased washers, china cross handles, china escutcheons and china knob. Adjustable for drillings for enameled iron or vitreous china lavatories.

Price, No. 484, 31/2-Inch Spout each \$22.00 Price, No. 488, 5-Inch Spout....each 23.00 Supply valves rewashered from top of lavatory.



No. 494 Teck Lavatory Supply and Drain **Fittings**

Combination Supply and Pop-Up Drain Fitting, with china spout and china soap dish, nickel silver pop-up drain, compression valves with encased washers, china cross handles, china escutcheons and china

Adjustable for drillings for enameled iron or vitreous china lavatories.

Price, No. 494, with China Spout and Soap Dish......each \$25.00 Supply valves rewashered from top of lavatory.

No. 473 Teck Pop-Up Lavatory Drains

Teck Pop-Up Lavatory Drain with china knob through slab, one-piece china soap dish and escutcheon, nickel-silver pop-up plug with 1¼-inch nickel-plated tail piece.

Price, No. 473, as Described ... each \$9.00

Can furnish 11/2-inch tail piece and solid nickel silver knob if desired.

This drain is provided with ample adjustment to fit the various sizes and types of lavatories. It pops shut when the knob is down. No friction in the stuffing box.

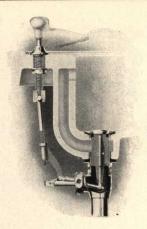


No. 470 Teck Pop-Up Lavatory Drains

Nickel-plated Teck pop-up lavatory drain through slab, with china knob.

Price, with Metal Escutcheon...each \$5.50 Price, with China Escutcheon...each 6.00

This drain is provided with ample adjustment to fit the various sizes and types of lavatories. It pops shut when the knob is lifted and open when the knob is down. No friction in the stuffing box.





Teck Pop-Up Lavatory Drains

Teck Pop-Up Lavatory Drain with china cross handle through back of lavatory, nickel silver pop-up plug and 1¼-inch nickel-plated tail piece.

Price, No. 474, For Enamel Iron Lavatoryeach \$8.00

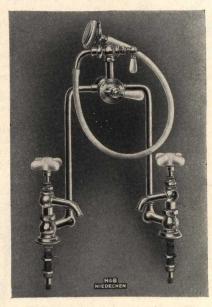
Price, No. 475, For China Lavatory each \$8.00

Can furnish 11/2-inch tail piece if desired.

This drain is provided with ample adjustment to fit the various sizes and types of lavatories. It pops shut when the knob is lifted and open when the knob is down. No friction in the stuffing box.

No. 6000 Combination Shampoo and Basin Fittings

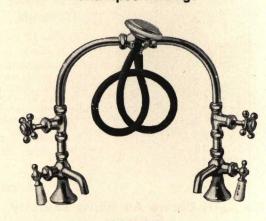
PATENTED



Niedecken combination shampoo and basin supply fitting with exposed Niedecken mixer, shampoo control and compression basin faucets with china cross handles.

The centers of basin faucets are adjustable, so that this fitting can be attached to almost every style of lavatory.

No. 139H Combination Basin Supply and Shampoo Fittings



Nickel-plated combination basin and shampoo fitting, quick compression basin supply with china handles, compression stops with 4-ball china index handles, slip joint tee in arch, spray and rubber tubing.

Supply 12 inches center to center; height, 13 inches.

Price, No. 139H each

No. 70 Quick Compression Shampoo Mixing Faucets



Nickel-plated brass quick acting compression shampoo mixing faucet with indexed china handles, swing tube, rubber bound spray, and ½-inch iron pipe female threaded inlets. Price, No. 70.....each \$18.00

No. 607 Dececo All White Lavatory Fittings



Dececo all white china lavatory supply and waste fittings with encased compression faucets and pop-up waste with china lever handle through back.

Price, No. 607 each \$19.00



PATENTED Fig. 331

Niedecken Nickel-Plated Shampoo Fitting with 1/2inch exposed type Niedecken mixer, 1/2-inch supplies to wall and wall flanges lever handle shampoo control stop with hose, spray and hook.

Approximate Shipping Weight.....pounds 8

Ideal for use in barber shops, hospitals, etc.

Compression Basin Faucets



No. 20, 4-ball Handle



No. 20 China Handle

Price, No. 20 Compression Basin faucet with No. 2 China Index Handle and Stuffing Box, N.P. each Price, No. 20 Compression Basin faucet with No. 4 all China Handle and Stuffing Box, N. P. each

\$3.50 4.00

No. 12 Compression Basin Faucets



Nickel-plated compression basin faucet with 4-ball china index handle.

Price, No. 12. each \$2.90

No. 3311 Quick Compression Basin Faucets



Nickel-plated quick compression basin faucet with china index four-arm handle.

Price, No. 3311.....each \$4.00

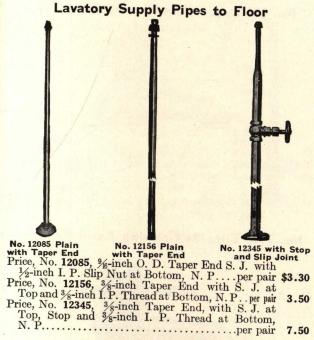


No. 2300 Quaturn Quick Compression Lavatory Faucets

Nickel-plated combination quick compression lavatory faucet with indexed china lever

It opens to full flow on oneeighth turn of the handle and comes to a stop at one-quarter turn. The tail piece is 4 inches from center to center.

Price.....each \$10.00



......per pair 7.50

Lavatory Supply Pipes



Price, No. 30, 7/6-inch O.D., 3/8-inch I.P. Slip Joint per pair \$3.00 Price, No. 30, %-inch O.D., ½-inch I.P. Slip Price, No. 31, 1/6-inch O.D., 3/8-inch I.P. Slip 3.25 Price, No. 31, %-inch O.D., ½-inch I.P. Slip 3.00 Joint.....per pair 3.25

Crawford **Lavatory Connections**

For slip joint end to fit coupling nut on shank of basin faucet. Threaded end for 3/8-inch iron pipe supply.

Price, No. 28, Straight...per pair \$1.25 29, Angle....



No. 29

No. 7108 Quick Compression Basin Faucets



Nickel-plated quick compression basin faucet with china lever handle, indexed.

Center of body to center of spout outlet, 3¾ inches.

No. 3300 Quick Compression Basin Faucets



Nickel-plated quick compression basin faucet with china index lever handle.

Price, No. 3300.....each \$3.75

No. C-2100 Quaturn Quick Compression Basin Faucets With Top Handle



Nickel-plated Quaturn quick compression basin faucet with china index lever handle.

No. 2200 Quaturn Quick Compression Basin Faucets



Quaturn nickel-plated quick compression basin faucet with china lever side handle, indexed.

Center of faucet to center of spout outlet, $3\frac{1}{2}$ inches. Diameter of flange, $2\frac{1}{4}$ inches. Bottom of flange to end of tail pieces, $4\frac{3}{4}$ inches. Diameter of shank, $\frac{3}{6}$ inch.

Price, No. 2200each \$4.25

No. 103 Self-Closing Ball-Bearing Basin Faucets



Nickel-plated self-closing ball-bearing semi-low-down basin faucet with 4-ball china index handle, hot or cold.

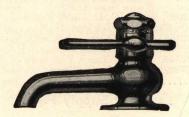
Price, No. 103.....each \$5.60

No. 631 Dececo Encased Basin Faucets



All white china encased basin faucet with china housing and china handle indexed.

No. 7100 Elita Self-closing Basin Faucets



Nickel-plated self-closing basin cock with lever handle.

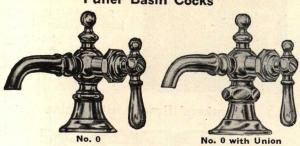
Boston Self-closing Basin Faucets



Fig. 341

Price, Regular Pattern, N.P.each \$3.95

Fuller Basin Cocks



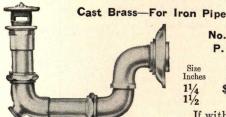
Price.	No.	0.	N.P each	\$3 25
"	"	0	" with China Handles "	4 00
"	"	0	with Union N.P.	4 25
"	"	0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1.20
			onch	5 00

Pantry Faucets Fuller Pantry Faucets Price, No. 0 Fin. or N. P. each N. P. each \$4.50 Add for China Handle . each \$.75 Hose End " " Union in Body... .50 Compression Pantry Faucets Price, No. 1 Fin. or N. P. ea. \$3.75 Add for Stuffing Box Add for 4-ball China Indexed Handles Add for Hose Endeach .30

Brass Traps



Milwaukee Basin and Sink Traps



No. 99 with P. O. Plug

Size	PRICE,	EACH
Inches	Rough	N. P.
11/4	\$6.50	\$7.50
1½ 1½	9.50	10.50

If without P.O. plug, deduct \$1.75.

No. 94 with Sink Connection

Size	PRICE	E. EACH	Size	PRICE.	Figure
Inches	Rough	N. P.	Inches	Rough	N. P.
11/4	\$5.50	\$6.50	11/2	\$8.50	\$9.50
If wi	ithout sink	connection	deduct \$1	75	

Femco Deep Seal Anti-Syphon Traps





The body is made of heavy drawn brass joined in the center by a solderless water tight joint. Made in 17 or 20gauge. Size...

 Size
 inches
 11/4
 11/2

 Price, No. 9, Nickel-Plated S Trap
 each
 \$3.42
 \$3.96

 Price, No. 10, Nickel-Plated P Trap
 each
 2.70
 3.12

Centrifugal Brass P Traps

Deep Seal-Anti-syphon



Cleanout plug full size of body. Inlet or outlet bends 17 or 20-gauge.

Cast body and nuts.

Inlet to slip 11/4 or 11/2-inch patent overflow plug sink or urinal connection.

No.	Size Inches	Price Each
476	11/4	\$6.50
477	11/2	8.50

Centrifugal Brass S Traps

Deep Seal-Anti-syphon

Cleanout plug full size of body.

Inlet and outlet bends 17 or 20gauge.

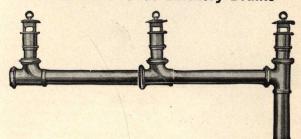
Cast body and nuts.

Inlet to slip 1¼ or 1½ inch patent overflow plug sink or urinal connection, as specified.

No.	Size Inches	Price Each
478	11/4	\$7.00
479	$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	9.00



No. 26 Continuous Lavatory Drains



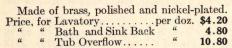
Sizeinches Number of Inlets	2	3	4	2	3	4
Price, Rough each	\$4.70	\$7.10	\$9.75	\$6.10	\$9.00	\$12.50
" Fin "	4.85	7.40	10.50	6.30	9.50	13.25
" N. P "						14.00

No. 4469 Nickel-Plated P. O. Plugs

	То		0
Size Inches	To Slip Inches	Price Each	
11/4	2 4	\$1.25 1.35	
11/4	6	1.45	
11/4	8	1.55	

Cock Hole Covers No. 7173

These are made in three sizes; for lavatory cock hole, for sink back cock hole and for overflow hole of bath tub.





No. 754 China Chain Stays

China chain stay with nickelplated ring and post for lavatory.

Price,	No.	754.		each	\$.25
"	"	755,	with	Beaded	
Cha	in		1.55	each	.45

No. 12446 Chain Stays

Wrought shoulder under flange 1/8-inch diameter, centering shank in hole on lavatories drilled for Pop-up Basin Waste. Fits enameled iron or vitreous lavatories. Outside diameter of base 1½ inches, length shank under base 1¾ inches. Shank threaded 9–28. Nut tapped 9–28.

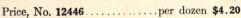




Fig. 361

Bead Chains

Solid nickel silver, with jump couplings.

		Length Inches	Price per Doz.
For	Basin	12	\$3.00
"	Bath	17	3.50
"	Wash Tray	11	3.50
"	Closet	48	12.50

Plumbers' Brass Link Chains





	Style		F 12 YARDS PER BOX	PRICE, PE	500 FEET R 100 FEET
No.	of Chain	Fin.	N. P.	Fin.	N. P.
000	Plumbers	\$1.25	\$1.30	\$3.50	\$3.60
00	"	1.45	1.50	4.00	4.10
0	"	1.80	1.85	5.00	5.10
1	"	2.25	2.30	6.25	6.35
2	"	2.90	3.00	8.00	8.20
3	Navy Link	3.60	3.70	10.00	10.20
4	u* u	4.15	4.25	11.50	11.70



rass riange	es
Diameter	Price per
Inches	Dozen
3	\$3.65
3	3.65
3	3.65



Enameled Iron Roll Rim Wash Sink

with integral back and fitted with iron concealed hangers, nickel-plated brass soap dish, compression faucets with four-ball china indexed handles, nickel-plated strainer and coupling with tail piece, and 1½-inch nickel-plated P trap.

> Width over rim 18 inches Width inside 131/4 inches Depth inside 7 inches Back 8 inches

Fig. 362

Length feet	3	4	5	6
Number of Faucets.	2	2	3	3
" " Soap Dishes	1	1	2	2
Approximate Shipping Weight pounds	130	170	210	250

These sinks may be furnished without faucets and trap; also with brass patent overflow, and enameled or painted round adjustable pedestals for setting sink 29 to 32 inches from floor.

Enameled Iron Roll Rim Wash Sink with end outlet, on enameled round adjustable pedestals, galvanized double supply supports, galvanized hot and cold supply pipes and crosses over center of sink, nickel-plated rough brass quick acting compression mixing faucets with rose spray spout, oblong soap dishes, 2-inch brass beehive strainer, and 2-inch galvanized iron P trap with male outlet.

Width over rim 30 inches Width inside 26 inches Floor to top of rim 30 inches Depth inside at outlet 8 inches

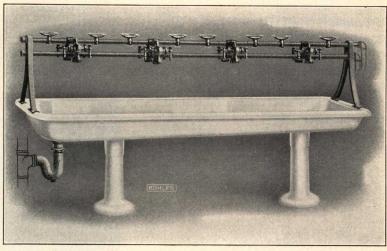
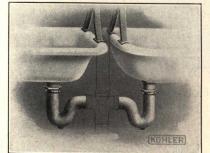


Fig. 371



Lengthinches	48	60	72	84	96
Number of Faucets	4	6	6	8	8
" Soap Dishes	4	6	6	8	8
Size of Supply Pipesinches	3/4	3/4	3/4	1	1
Approximate Shipping Weight pounds	315	365	425	490	550

Can be furnished also with supply and strainer only.

Illustration herewith shows sinks end to end joined into one waste and vent.



Type A, Water Supply and Vent from Below Fig. 372



Type A, Overhead Water Supply and Vent from Below Fig. 373



Type B, with Overhead Water and Vent Connection, and Hot and Cold Water Combination Fig. 374

Bradley Washfountains are designed for group washing and are made in five different types to meet every demand and contingency that may arise.

Type C Wallfountain Semi-Circular Fig. 375

The Bradley Washfountain is so constructed that the user cannot wash with hands extending upward. Washing is done in running water with hands downward which prevents waste water from wetting and soiling washroom floors, as it drains into the fountain bowl and does not drip on the floor.

Granito is the least expensive grade and is made of a special waterproof composition, with machined and polished surface on the inside of bowl; outside of bowl and pedestal are

not machined, but are perfectly smooth, of good color and appearance. Granito is as hard as stone and impervious to water, grease, soap, etc.

Marmorite white and colored fountains are machined and polished all over, resembling polished marble. Marmorite is non-absorbent and not affected by action of grease, water, soap, etc.

Porcelain, 32-inch only, in Types A and D. Bowl is made of highest quality glazed porcelain; pedestal of white Marmorite.

Pedestal for 54-inch fountains has metal protection at top and bottom; for 32-inch fountains, on bottom only.



Type D, Foot-Controlled Fountain Fig. 376

Diameter of Bowlin.	32	54
Approx. Ship. Wt., Granito or Marmoritelbs.	450	1350

Diameter of Bo	wl.			 	 	 	 	 in.	32
Approx. Ship. V	Vt.,	Porce	elain.	 	 	 	 	 .lbs.	450

Porcelain Roll Rim Pantry Sink with integral back and two integral drain boards, on porcelain legs and supports to wall, fitted with nickel-plated quick compression faucets with china handles, nickel-plated outlet strainer and coupling and nickel-plated 1½-inch trap to wall.

Dimensions

Width over all 22 inches Length over all 50 inches Height of back 9 inches Size of sink proper 20x15 inches Height floor to rim 35 inches



Fig. 381

Sizeinches22x50Approximate Shipping Weightpounds635

Prices on porcelain sinks are for kiln-run ware. An extra charge is made for special selection.



Fig. 382

Porcelain Roll Rim Sink with integral back and drain board, on porcelain legs and supports to wall, fitted with nickel-plated quick compression faucets with china handles, nickel-plated outlet strainer and coupling and nickel-plated 1½-inch P trap to wall.

Dimensions

Height of back 9 inches Height floor to rim 35 inches

Sizeinches	22x42	26x53	26x62
Approximate Shipping Weight	410	600	695

Prices on porcelain sinks are for kiln-run ware. An extra charge is made for special selection.



Fig. 391

Porcelain Roll Rim Kitchen and Rinsing Sink with integral back and center dividing partition, on porcelain legs and supports to wall, fitted with nickel-plated quick compression swing spout faucet with china handles, nickel-plated strainer and coupling, nickel-plated outlet plug and stopper, nickel-plated continuous waste and nickel-plated 1½-inch trap to wall.

Dimensions

Height of back 9 inches Height floor to rim 35 inches

Size	26x36	26x42	26x48	26x56
Approximate Shipping Weightpounds	335	410	500	650

Prices on porcelain sinks are for kiln-run ware. An extra charge is made for special selection.



Fig. 392

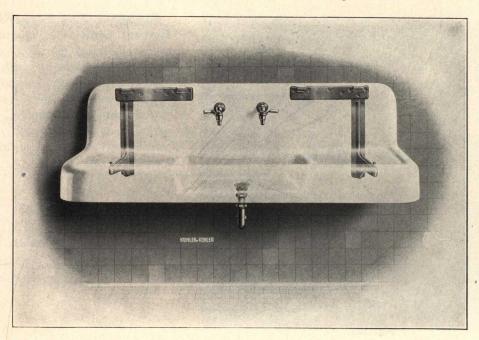
Porcelain Roll Rim Sink with integral back on porcelain legs with painted iron supports to wall, fitted with nickel-plated quick compression faucets with china handles, nickel-plated outlet strainer and coupling and nickel-plated 1½-inch trap to wall.

Dimensions

Height of back 9 inches Height floor to rim 35 inches Depth inside 7 inches Depth outside 9 inches

Sizeinches	22x24	22x27	26x27	22x30	26x30	26x36	26x42	26x48
Approximate Shipping Weightpounds	240	260	290	300	320	360	425	500

Prices on porcelain sinks are for kiln-run ware. An extra charge is made for special selection,



Double Drain Board Sink on Concealed Brackets and Hangers

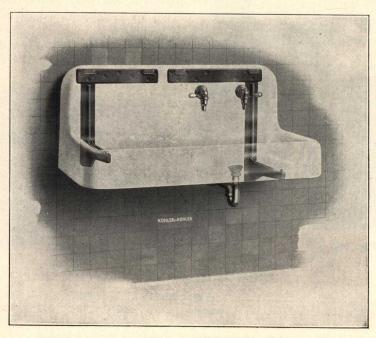
Fig. 401

Kohler Concealed Steel Sink Bracket for use on any of the wall hung kitchen sinks. It is used in combination with the hangers regularly furnished. The use of sink legs is unnecessary, and it leaves the floor free from obstruction.

The bracket is made strong and has full length contact with the wall providing a maximum bearing surface to rigidly and securely support the sink. An adjusting screw located in the front end of the bracket makes contact with sink or drain board. The sink is leveled by turning this screw with either a wrench or a screw driver.

All parts of the bracket are smoothly finished and the adjusting screw does not project below the bottom of the bracket. The bracket is made in two lengths to fit below sink and drain board as illustrated, and is attachable to either end of the regular hanger.

This bracket is furnished with kitchen sinks only when specifically ordered.



Single Drain Board Sink on Concealed Brackets and Hangers Fig. 402

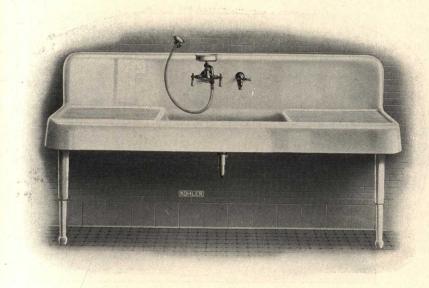


Fig. 411

Enameled One Piece Apron Sink with two drainboards, on enameled adjustable legs and concealed hangers, with ½-inch nickel-plated quick acting compression mixing faucet with hose coupling, hose, spray and hook, china soap dish, ½-inch nickel-plated quick acting compression faucet, and strainer with 1½ inch tailpiece.

Legs are adjustable 30 to 36 inches.

Dimensions

Apron 6 inches Back 12 inches

Size inches	00.00	22 22	
Desirable 1	20x30	22x26	22x30
Dramooards	20v24	22x19	
Length Over All	741/		
W; J+h " "	14/2	$60\frac{1}{2}$	141/2
Width " " "	201/4	221/4	221/
Approximate Shipping Weight pounds	195	240	/ -
Can be furnished with a will a like the pounds	450	340	445
Can be furnished with special length legs for sink adjustment from 36 to 41 inches			

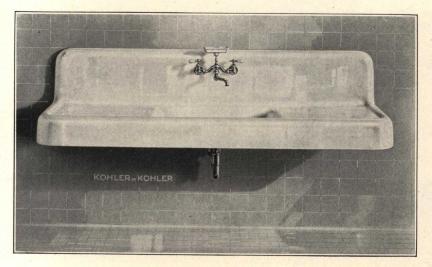


Fig. 412

Enameled Iron Apron Sink with two drain boards and back all in one piece, on concealed wall hangers, nickel-plated quick compression swing spout sink faucet with china lever handles and china soap dish, 1½-inch nickel-plated plain P trap and nickel-plated brass strainer with coupling and tail piece.

Height of back 12 inches Apron 6 inches

Sizeinches	20x30	22x26	22x30
Drain Boards	20x24	22x19	22x24
Length Over All. "	741/2	601/6	741/2
Width " " "	201/4	221/4	221/4
Approximate Shipping Weightpounds	410	330	420

Can be furnished with concealed sink bracket support.

Also can be furnished with painted or enameled iron legs and with special length legs allowing sink adjustment from 36 to 41 inches. Fittings as shown on any of the other sinks can be furnished if desired.

Enameled Iron Apron Sink with left drain board and back all in one piece, on concealed wall hangers, nickel-plated quick compression swing spout sink faucet with china lever handles and china soap dish, 1½-inch nickel-plated plain P trap, nickel-plated brass strainer with coupling and tail piece.

This sink also is made with right drain board.

Can be furnished with concealed sink bracket support.

Can be furnished with enameled or painted iron legs adjustable from 30 to 36 inches and special length legs allowing sink adjustment from 36 to 41 inches.

Fittings shown on any of the other sinks can be furnished if desired.

Height of back 12 inches Apron 6 inches

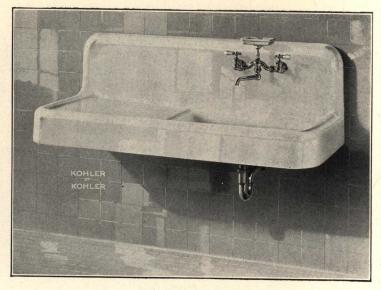


Fig. 421



Sizeinches			
Drain Board "	20124	20X30	22X30
Width " " "	$20\frac{1}{4}$	$20\frac{1}{4}$	$22\frac{1}{4}$
Approximate Shipping Weightpounds	- 210	240	290

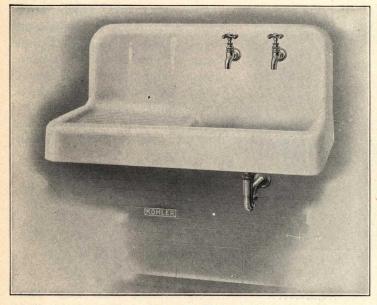


Fig. 423

Kitchenette Type Enameled Iron Apron Sink with left drain board and back all in one piece, concealed wall hangers, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated P trap and nickel-plated strainer with coupling and tail piece.

Sink 20x24 inches Drain board 20x20 inches Length over all 42½ inches Width over all 20¼ inches Back 12 inches

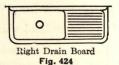
Approximate Shipping Weight..... pounds 210

This sink also is made with right drain board.

Can be furnished with concealed sink bracket support.

Also can be furnished with enameled or painted iron legs adjustable from 30 to 36 inches, or special length legs allowing sink adjustment from 36 to 41 inches.

Fittings shown on any of the other sinks can be furnished if desired.



Enameled Iron Apron Sink with left drain board, back and left end all in one piece, concealed wall hangers, nickel-plated quick compression swing spout sink faucet with china lever handles and china soap dish, 1½-inch nickel-plated P trap, nickel-plated strainer with coupling and tail piece.

Back 12 inches Apron 6 inches

Size Inches	Drain Board Inches	Length Over All Inches	Width Over All Inches
20x24	20x20	421/4	201/4
22x30	22x24	521/4	221/4

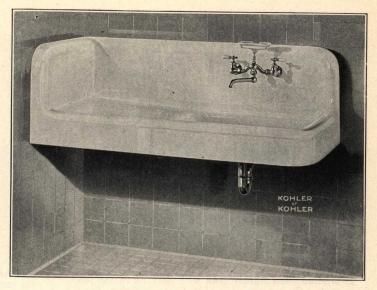
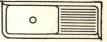


Fig. 431



Right Drain Board Right Corner Fig. 432 This sink also is made with right drain board and right end piece.

Can be furnished with concealed sink bracket support.

Also can be furnished with enameled or painted iron leg adjustable from 30 to 36 inches, and with special length leg allowing sink adjustment from 36 to 41 inches from floor.

Fittings shown on any of the other sinks can be furnished if desired.



Fig. 433

Size Inches	Drain Board Inches		Length Over All Inches
20x24	20x20		421/4
20x30	20x24		521/4
22x30	 22x24		521/4
m: . 1 1 .		and the state of t	/-

This sink also is made with right drain board and left end piece.

Can be furnished with concealed sink bracket support.

Enameled Iron Apron Sink with left drain board, back and right end all in one piece, concealed wall hangers, nickel-plated quick compression swing spout sink faucet with china lever handles and china soap dish, 1½-inch nickel-plated P trap, nickel-plated brass strainer with coupling and tail piece.

Height of back 12 inches. Apron 6 inches

Sizeinches Approximate ShippingWeight	20x24	20x30	22x30
pounds	245	290	300

Width Over All Inches 2014 2014 Right Drain Board Left Corner Fig. 434

Also can be furnished with enameled or painted iron leg adjustable from 30 to 36 inches and with special length leg, allowing sink adjustment from 36 to 41 inches from floor.

Fittings shown on any of the other sinks can be furnished if desired.

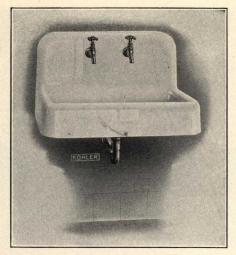


Fig. 441

Enameled Iron Apron Sink with back all in one piece, concealed wall hanger, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated brass P trap, open nickel-plated brass strainer with coupling and tail piece.

Sink 18x30 inches Back 12 inches Apron 6 inches Sink 20x24 inches Back 12 inches Apron 6 inches

 Size
 inches
 18x30
 20x24
 20x30

 Approximate Shipping Weight
 pounds
 140
 125
 150

Can be furnished with concealed sink bracket support.
Also can be furnished with enameled iron or painted iron legs, adjustable from 30 to 36 inches, and with special legs allowing adjustment of from 36 to 41 inches. Fittings shown on any other sinks can be furnished if desired.



Fig. 443

Enameled Iron Roll Rim Sink with 12-inch back in one piece, concealed wall hanger, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated P trap, nickel-plated strainer with coupling and tail piece.

Size Inches	Approx. Shipping Wt., Lbs.	Size Inches	Approx. Shipping Wt., Lbs.	Size Inches	Approx. Shipping Wt., Lbs.
16x24	95	20x20	90	20x40	165
18x18	80	20x24	110	22x30	130
18x24	100	20x30	125	22x36	150
18x30	120	20x36	150	22x42	190

Can be furnished on enameled or painted adjustable legs and with fittings shown on any other sinks.

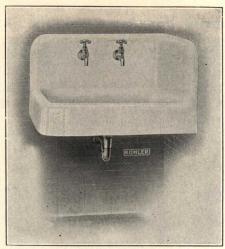


Fig. 442

Enameled Iron Apron Sink with back and right end all in one piece, concealed wall hangers, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated P trap, nickel-plated strainer with coupling and tail piece.

This sink also is made with left end piece.

Can be furnished with concealed sink bracket support.

Also can be furnished with painted or enameled leg, adjustable from 30 to 36 inches, and with special leg allowing adjustment of from 36 to 41 inches. Fittings shown on any other sinks can be furnished if desired.

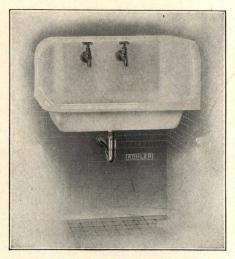


Fig. 444

Enameled Iron Roll Rim Sink with 12-inch back and right end all in one piece, concealed wall hangers, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated brass P trap, nickel-plated strainer with coupling and tail piece.

Size Inches	Approx. Shipping Wt., Lbs.	Size Inches	Approx. Shipping Wt., Lbs.	Size Inches	Approx. Shipping Wt., Lbs.
16x24	120	18x36	160	20x40	190
18x24	130	20x30	160		
18x30	140	20x36	175		

This sink also is made with left end.

Can be furnished on enameled or painted adjustable leg and with fittings shown on any other sinks.

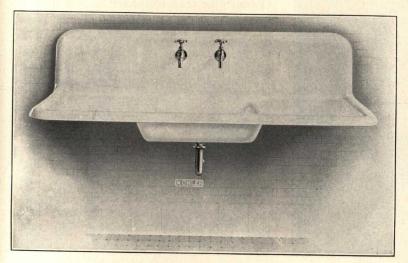


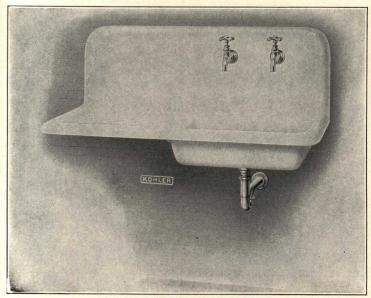
Fig. 451

Enameled Iron Roll Rim Sink with back and right and left drain boards, concealed hangers, nickel-plated compression faucets with four-ball china index handles, nickel-plated strainer and 1½-inch nickel-plated adjustable P trap.

Size 22x26 inches Drain boards 22x19 inches Length over all 60 inches Width over all 22 inches Back 12 inches

Can be furnished with concealed sink bracket support.

Can be furnished with enameled or painted iron legs adjustable from 30 to 36 inches, and with special length legs allowing sink adjustment from 36 to 41 inches from floor. Fittings shown on any of the other sinks can be furnished if desired.



Enameled Iron Roll Rim Sink with back and left drain board all in one piece, on concealed hangers, nickel-plated compression flanged faucets with four-ball china index handles, 1½-inch nickel-plated P trap, nickel-plated strainer with coupling and tail piece.

Height of back 12 inches

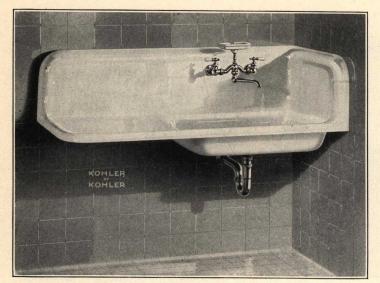
Sizeinches	20x24	20x26	20x28
Approx. Ship. Wtlbs.	210	220	230
Sizein.	20x48	20x30	22x30
Approx. Ship. Wtlbs.	235	250	270

	Fig. 452	Length	Width -	
Size Inches	Drain Board	Over All	Over All	
	Inches	Inches	Inches	
20x24	20x20	42	20	
20x26	20x18	42	20	
20x28	20x20	49	201/2	Right
20x48	20x18	48	20	Drain Board
20x30	20x24	52	20	Fig. 453
22x30	22x24	52	22	
This girl also is	made with might drain board Co	n he furnished with concelled sink h	realect gunnort	

This sink also is made with right drain board. Can be furnished with concealed sink bracket support.

Also can be furnished with enameled or painted iron legs adjustable from 30 to 36 inches, and with special length legs allowing sink adjustment of 36 to 41 inches from floor.

Fittings shown on any of the other sinks can be furnished if desired.



Enameled Iron Roll Rim Sink with back, right end and left drain board all in one piece, on concealed wall hangers, nickel-plated quick compression swing spout sink faucet with china lever handles and china soap dish, nickel-plated strainer, and 1½-inch P trap.

Height of back 12 inches

Sizeinches	20x24	20x30	22x30
Approx. Ship. Weight. pounds	210	250	265

Width Over All Inches 20 20 22

Right Drain Board Left Corner

Fig. 462

Fig. 461

Size	Drain Board	Length Over All
Inches	Inches	Inches
20x24	20x20	42
20x30	20x24	52
22x30	22x24	52

This sink also is made with left end piece and right drain board.

Can be furnished with concealed sink bracket support.

Also can be furnished with enameled or painted iron-leg, adjustable from 30 to 36 inches, and with special length leg, allowing sink adjustment from 36 to 41 inches from floor.

Fittings shown on any of the other sinks can be furnished if desired.

Enameled Iron Roll Rim Sink with back, left end piece and left drain board all in one piece, concealed wall hangers, nickel-plated quick compression swing spout faucet with china lever handles and china soap dish, 1½-inch nickel-plated P trap, nickel-plated strainer with coupling and tail piece.

Height of back 12 inches

Size Inches	Drain Board Inches	Length Over All Inches	Width Over All Inches
20x24	20x20	42	20
22x30	22x24	52	22

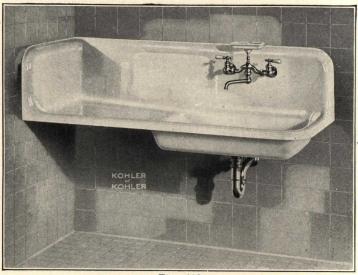
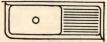


Fig. 463

 Size
 inches
 20x24
 22x30

 Approximate Shipping Weight
 pounds
 200
 265



Right Drain Board Right Corner Fig. 464 This sink also is made with right end piece and right drain board.

Can be furnished with concealed sink bracket support.

Also can be furnished with enameled or painted iron leg, adjustable 30 to 36 inches, and with special length leg allowing sink adjustment of 36 to 41 inches from floor.

Fittings shown on any of the other sinks can be furnished if desired.

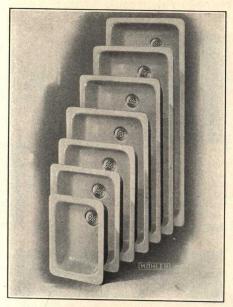


Fig. 471

Enameled fron Flat Rim Sink with new style nickelplated strainer with lock nut and coupling. Depth 6 inches.

	N				
Size Inches	Approx. Shipping Wt.,Lbs.	Size Inches	Approx. Shipping Wt.,Lbs.	Size Inches	Approx. Shipping
12x18	25	18x30	60	20x36	Wt.,Lbs. 75
14x20	29	18x36	71	20x40	80
16x24	46	20x24	55	22x36	80
18x24	49	20x30	65	24x48	118
Can b	e furnished	with coupli	ng threaded	for 11/4,	1½ or

Kohler Enameled Iron Sink Backs

For Flat

Rim Sinks

are regularly

furnished with

two cock holes 8 inches from

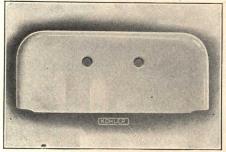
center to cen-

Sink backs with only one

hole will be furnished at

ter.

Sink backs



2-inch iron pipe.

Fig. 472

Fig. 4/2				same price.			
Length inches Height.	20 12			36 12	-	48 12	
Priceeach		1	12		12	12	

Kohler Enameled Iron Drain Boards

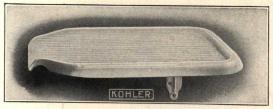
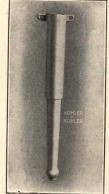


Fig. 473

Enameled iron interchangeable drain board for roll rim sink, with concealed enameled iron bracket.

Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
16x18	\$4.30	22x18	\$5.40	20x24	\$5.70
18x18	4.70	16x24	5.00	22×24	6.10
20x18	5.00	18x24	5.40		

Adjustable Sink Legs



Iron adjustable sink leg for sink adjustment from 30 to 36 inches.

F-2625 Enameled Iron

Price, No. 1 for Sink Body each \$4.40 2 " Drain Board. ... " 5.00

F-2626 Painted Iron

Price, No. 1 for Sink Body each \$1.90 " 2 " Drain Board... " 2.55

Special length for 36 to 41-inch adjustment same price.

Specify when ordering.

Kohler Moulded Rubber Drain Board Mats For Enameled Drain Boards



No. 2418 for Interchangeable Drain Boards

For		For	
Drain		Drain	
Boards	Price	Boards	Price
Inches	Each	Inches	Each
16x18	\$5.60	16x24	\$6.60
18x18	6.00	18x24	7.20
20x18	4.40	20x24	5.80
22x18	4.50	22x24	6.30

No. 2419 for Drain Boards Cast One Piece with Sink

20x18	\$4.50	22x19	\$4.75
20x20	5.60	22x24	6.50
20x24	6.30		

Pump Shelf and Bracket No. 930



Designed for attaching to flat or roll rim sinks for supporting a pump. Can be placed on either side and adjusted to any desired level. Has a bead around the outer and inner edges so all waste

water will drain into the sink. The numerous holes and slots in the shelf make it suitable for fitting different makes of pumps.

Royal Blue pumps take a bracket slightly different. Specify if for Royal Blue pump.

Price, Painted or Bronzed per doz. \$20.00
"White Enameled "30.00

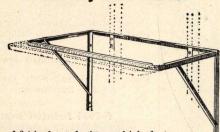
Kitchen Katch-Alls Sanitary Under-The-Sink-Strainer

A sanitary refuse strainer that attaches to the sink trap and swings under the sink. Drop refuse into inner perforated receptacle which allows all water to drain from refuse. No odor, no dirt or dripping water to stain the sink. Lift inner receptacle and dry refuse is ready to wrap. Made of aluminum.



Price.....each \$4.00

Sanitary Sink Frames



Made of 34-inch angle iron which fastens to the wall by clips.

No.	Lgth. In.	Holds Sink Inches	Price Each	No.		Holds Sink Inches	Price Each
1	24	16x24 or 18x24	\$2.00	4	36	18x36 or 20x36	\$2.00
2	30	16x30 " 18x30	2.00	5	42	18x42 " 20x42	2.25
3	30	18x30 " 20x30	2.00	6	48	18x48 " 20x40	2.25

Plain Sink Brackets



	Width	Price	E, EACH——
	of Sinks		Galv.
No.	In.	Ptd.	Enam
1	14	\$.50	\$1.00
2	18	.50	1.00
3	24	.70	1.25

Nickel Silver Sink Strainers



Knife edged flange, 3inch diameter, fits flush in outlet of sink; cut thread full 1½-inch i.p.s.; large and small leather washers; cast brass lock-nut. Tail piece, 1½ or 1½ inches, heavy or light weight, any length. Furnished with interchangeable strainer and rubber plug.

	- PRICE, EACH				
Tail	No. 8077	No. 8078			
Piece	Open	with Rubber			
Inches	Strainer	Stopper			
11/4					



Brass Sink Connections

12 Inches Long

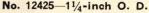
These couplings are one piece, drawn from heavy gauge wrought brass and nickel-plated.



No. 12405-11/2-inch O. D.

Nickel-plated brass 1½-inch O. D. sink coupling 12 inches long with shoulder.

Price, No. 12405.....each \$1.50



Nickel-plated brass 11/2x11/4-inch O. D. Sink coupling 12 inches long with shoulder.

Price, No. 12425.....each \$1.75

No. 409 Brass Sink Connections

Slipinches	1½x5	1½x5
GaugeNo. Price, No. 409, Nickel-plated each	\$. 90	.90

No. 500 Adjustable Sink P Traps



Female I. P. outlet.

Size			 inches	11/4	11/2	2
Price,	N.	P	 .each	\$3.00	3.75	7.00
				\$2.75		

No. 2402 Brass Sink Strainers For Iron Pipe Connection

Nickel-plated brass sink strainer with iron coupling threaded 1½-inch I. P. Also furnished for 1¼ and 2-inch I. P. Price, Open Strainer..... with Rubber Stopper for Common Overfloweach

Price, Patent Overflow with Rubber Stopper..... each 2.60



No. 2396 Brass Sink Strainers For Lead Pipe Connection

Nickel-plated brass sink strainer with iron coupling and collar for lead pipe connection.
Price, Open Strainer each \$1.10
"with Rubber Stopper for Common Overflow each

Price, Patent Overflow with Rubber Stopper....each 2.85

No. 4416 Sink Strainers with Plugs

Price,	Painted	per doz.	\$3.50
"	Enameled	"	5.00
"	Polished Brass	"	7.00
"	N. P. Brass	"	8.00
"	Ex. Bolts and Nut	s "	.50



No. 4415 Open Sink Strainers



Price, Painted per doz. \$1.25 Enameled..... 2.25 Polished Brass... 3.75 N. P. Brass.... Ex. Bolts and Nuts 4.00 .50

2.00



Long

Sink Collars No. 450 for Lead Pipe PRICE, PER DOZEN Ptd. Galv 11/4 \$1.50 \$2.00

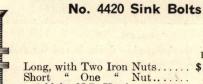
1.50



No. 452 for Iron Pipe

11/4 ·····inches Size... Galvanized

Nut...



Add for N.P. Heads.....

	E, PER
	Brass
 \$.35	\$.50
 .30	.40
 .20	.20



No. 525 Dececo All White Combination Sink Faucets

Dececo all white china combination sink faucet with concealed compression valves, china housings, china index handles and china spout.



Price, No. 525, with 1/2-Inch Valves, 8 Inches Center	
to Center, for Enameled Sink each	\$16.75
Price, No. 525, with 1/2-Inch Valves, 8 or 12 Inches	
Center to Center, for Porcelain Sinkeach	22.50
Add for 3/4-Inch Valves, for Porcelain Sinkeach	2.50

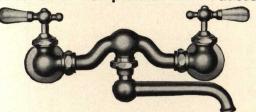
Whitehouse Quick Compression **Double Sink Faucets**



Fig. 491

Double sink faucet with concealed quick compression valves, vitreous china housing swing spout and indexed china lever handles and integral soap dish with invisible drain. ½-inch iron pipe connections, 8 inches center to center.

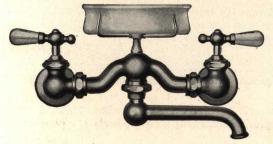
Priceeach No. 60 Quick Compression Sink Faucets



Nickel-plated quick compression combination double sink faucet with swing spout, china lever handles indexed and solid female flanges for ½-inch iron pipe.

Price, No. 60, Nickel-plated each \$12.50
If with Hose End, Add. "1.50
Extends into sink 3 inches. The slip joint construction
permits adjustment to variations in roughing-in. Center
yoke is locked making faucet rigid.

No. 60S Quick Compression Sink Faucets



Nickel-plated quick compression combination double sink faucet with swing spout, china handles indexed, china soap dish and solid female flanges for 1/2-inch iron pipe. Price, No. 60S, Nickel-plated each \$17.00
If with Hose End, Add 1.50

No. Q-61-S Quick Compression Triple Supply Sink Faucets



Nickel-plated quick compression triple supply sink faucet with swing spout, china soap dish, china handles, marked hot, cold and city or drink and 1/2-inch solid female flanges, 4-inch centers, adjustable.

Price	No	0.61 9	with Soap	Dish	each	\$16 00
"	"	0-61-P.	without So	oap Dish	"	14.50

No. C-101 Quaturn Classic Sink Faucets Without Soap Dish

Quaturn Classic sink faucet with china indexed handles and swing spout.

Connections 1/2 or 3/4-inch iron pipe female.



Price.	For	Cock	Holes	8-inch 10 "	Center	to	Center	.each	\$10.00
"	"	"	"	10 "	"	"	"	. "	10.50
"				19 "					

No. C-201 Quaturn Classic Sink Faucets With Soap Dish



Quaturn Classic sink faucet with china soap dish, and china indexed handles and swing spout.

Price,	for	Faucet	Holes	8-	inch	Center	to	Center	.each	\$12.50 13.00
u '	"	"	"	10	"	"	"	"	. "	13.00
		. "								13.50

No. C-301 Quaturn Classic Sink Faucets With Soap Dish and Spray



Nickel-plated classic sink faucet with swinging spout, adjustable arms for ½ or ¾inch iron pipe female, china handles, china soap dish with drain, rubber tubing and spray.

Water is diverted from spout through spray by turning knob below spout.

Price.	4	to	83/	Inches	3.										each	\$20.00 20.50
"	4	"	103/2	"				1							. "	20.50
"	4	"	123/8	"											. "	21.00



Fig. 501

Porcelain Slop Sink with integral back on enameled inside and painted outside iron trap standard with floor outlet for lead pipe, nickel-plated brass cleanout screw, enameled iron adjustable plate with bolts, nickel-plated strainer and nickel-plated quick compression faucets with china handles.

 Depth inside 12 inches
 Back 12 inches

 Size
 inches
 18x20
 20x22
 22x24

 Approx. Shipping Weight
 pounds
 210
 230
 275

Prices on porcelain slop sinks are based on kiln-run ware. An extra charge is made for special selection.

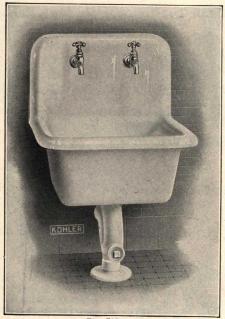


Fig. 502

Enameled Iron Roll Rim Slop Sink with 14-inch cnameled back in one piece, enameled adjustable trap standard with brass inlet flange, nickel-plated brass strainer, cleanout plug and nickel-plated compression faucets with china indexes.

 Size......inches
 16x20x12
 18x22x12
 20x24x12

 Approx. Shipping Wt., lbs.
 145
 165
 180

Can be furnished with other style trap standards. Also can be furnished in galvanized iron.



Fig. 503

Enameled Iron Flat Rim Slop Sink with 12-inch separate back, on enameled adjustable trap standard with outlet threaded for 2-inch iron pipe, nickel-plated brass cleanout plug, strainer and flange and nickel-plated compression faucets, with 4-ball china index handles. Furnished enameled inside only. Size......inches 16x20x12 18x22x12 20x24x12 App. Shipping Weight Ibs. 120 135 150 Can be furnished with other style trap standards.

HOHLER

Fig. 504

Enameled Iron Flat Rim Slop Sink with nickel-plated open brass strainer with iron coupling and collar for lead pipe connection. Enameled inside only.

 Size
 inches
 16x16x10
 16x20x12

 Approximate Shipping Weight pounds
 45
 60

 Size
 inches
 18x22x12
 20x24x12

 Approximate Shipping Weight pounds
 70
 80

The 16x16x10-inch has center outlet only. The 20x24x12-inch can be furnished with either center or end outlet. The balance have end outlet only. Strainer can be furnished with coupling threaded for 1½, 1½ or 2-inch iron pipe.

Enameled Iron Slop Sink Trap Standards



Plain trap slop sink standard for lead pipe, with nickelplated cleanout plug.

Price, Enameled All
Over....

Price, Enameled Inside Only....

Can be furnished also with nickel-plated vent to wall.

Enameled Iron Slop Sink Trap Standards

Open trap slop sink standard for lead pipe, with nickel-plated cleanout plug.

Price, Enameled All
Over....

Price, Enameled Inside Only....

Can be furnished with hub vent or nickel-plated brass vent.



Fig. 512



Fig. 515

Enameled Iron Slop Sink Trap Standards



Fig. 513

Open trap slop sink standard for 3-inch soil pipe, with nickel-plated cleanout plug.

Price, Enameled All
Over.....

Price, Enameled Inside Only.....

Can be furnished with hub or nickel-plated brass vent.

Enameled Iron Slop Sink Trap Standards

Adjustable slop sink trap standard threaded for 2-inch iron pipe, with nickel-plated cleanout plug.

Price, Enameled
All Over......
Price, Enameled
Inside Only......

Also can be furnished with outlet threaded for 3-inch iron pipe.

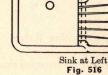


Fig. 514

Enameled Iron One-piece Apron Laundry Tray and Sink Combination on enameled adjustable legs and concealed hangers, with ash combination drain board and tray cover, nickel-plated quick compression double sink faucet with swing spout, china lever handles and china soap dish. 1½-inch continuous drain pipe and nickel-plated 1½-inch P trap, strainer with 1½-inch special length tailpiece in sink and strainer with stopper and 1½-inch tailpiece in tray.

Also can be furnished with enameled legs and integral patent overflow or drilled for overflow.

Width outside 23¾ inches
Front to back inside 19¼ inches
Length each compartment inside 21¾ inches
Depth sink inside 6 inches
Depth tray inside 13¼ inches
Height of back 12 inches
Apron 6 inches
Floor to top of rim adjustable from 32 to 36 inches.



Length Over All inches Approximate Shipping Weight Tray Drain Roard and Logs only pounds	501/
Approximate Shipping Weight, Tray, Drain Board and Legs onlypounds	350

The drain board is interchangeable for use over sink or tray or may be removed entirely. Tray overflows into sink over a depression in partition.

Porcelain Roll Rim Laundry Trays with integral back on porcelain legs and straps to wall, fitted with nickel-plated quick compression faucets with china handles, nickel-plated drain outlet plugs and stoppers, nickel-plated continuous drain, nickel-plated 1½-inch trap to wall and heavy wood wringer base.

Height of back 6 inches Height floor to rim 34 inches

Dimensions



Fig. 521

 Size
 inches
 26x26
 26x30
 26x36

 Approximate Shipping Weight, Each Tray
 pounds
 280
 345
 385

Prices on porcelain trays are for kiln-run ware. An extra charge is made for special selection.

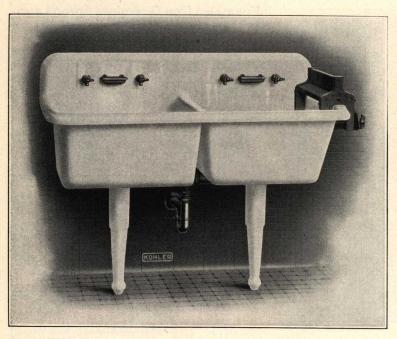


Fig. 522

Enameled One Piece Roll Rim Double Laundry Tray on painted adjustable legs, fitted with wooden wringer holder, nickel-plated brass soap dishes, ½-inch compression faucets, 1½-inch special double waste connection and strainers with rubber stoppers, and 1½-inch P trap.

Length over rim 52¾ inches Length each tray inside 23 inches Width over rim 265% inches Height of back 8 inches Front to back inside 21¼ inches Depth inside 14¼ inches

Approximate Shipping Weightpounds 485

Height from floor to top of rim is adjustable from 33 to 37 inches. If wanted drilled for overflow, specify when ordering.

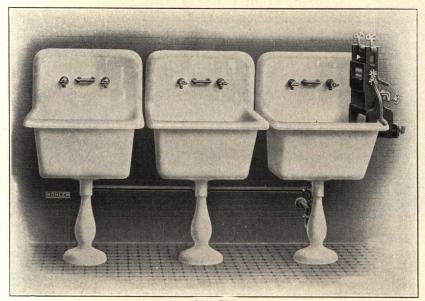


Fig. 531

Enameled Iron Roll Rim Laundry Trays with integral backs, adjustable pedestals, nickel-plated soap dishes, wooden wringer holder, compression wash tray faucets, 11/2-inch continuous drain, 11/2-inch waste plugs and 2-inch P trap.

Length over rim 271/2 inches Length inside 223/4 inches Depth inside 141/4 inches Front to back over rim 263/4 inches Front to back inside 221/2 inches Back 14 inches

Height from floor to top of rim is adjustable from 34 to 36½ inches.

Furnished enameled all over or enameled inside only.

Enameled Iron Flat Rim Laundry Trays, painted iron adjustable standards and concealed hangers, nickel-plated brass soap dishes, wood wringer holder, 1/2-inch nickel-plated compression wash tray faucets, 1½inch nickel-plated brass continuous drain and 2-inch nickel-plated P trap, drain plugs and rubber stoppers.

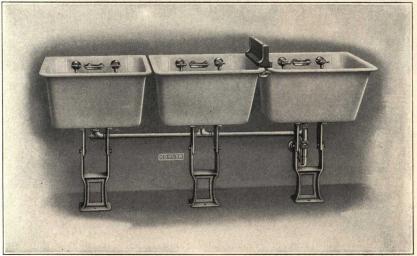


Fig. 532

Can be furnished drilled for connected drain and overflow.

Front to back over rim 26 inches Front to back inside 21¾ inches Length over rim 26 inches Length inside 23 inches Depth inside 141/4 inches Height of trays adjustable from 301/2 to 35½ inches from floor to top of rim

One- Two- Three-section section

Approximate Shipping Weight Less Waste, Faucets, Trap and Wringer Holder.....pounds 175 350 525

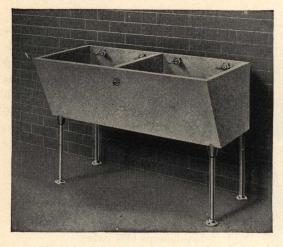


Fig. 541

Alberene Stone Laundry Tray without back, drilled for drain connection and faucets, supported on new style legs, fitted with finished brass drain plugs and stoppers.

Width outside 24 inches Depth outside 16 inches

This tray can be drilled for center, right or left-hand drain connection. Also furnished without faucet drillings if desired.

Faucets and drain connections are extra.

The two-part tray can be furnished in 42, 44 and 46-inch lengths for use in small apartments. The two-part tray also can be furnished with twin drain connection with or without internal overflow as specified.

1-Part			
Length inches	24	30	36
Approximate Shipping Weightpounds	239	265	325
2-Part			
Lengthinches	48	54	60
Approximate Shipping Weightpounds	455	484	530
3-Part			
Length inches 72	78	84	90
Approximate Shipping Weightpounds 665			815

Alberene Stone Laundry Tray with back, drilled for drain connection and faucets supported on new style legs, fitted with finished brass drain plugs and stoppers.

Width outside 24 inches Depth outside 16 inches

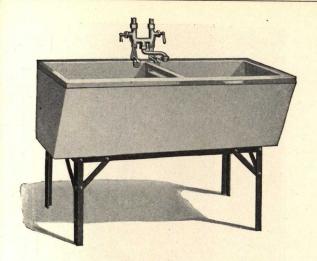
This tray can be drilled for right or left-hand drain connection.

The two-part tray can be furnished with twin drain connection with or without internal overflow as specified.

Faucets and drain connections are extra.



	1-Part	Fig. 542			
LengthApproximate Shipping Weight with 12-inch Back		inches	24	30	36
" 16 " "		pounds	279 292	315 331	385 405
	2-Part				
		inches pounds "	48 495 535 561	54 529 574 604	60 580 630 663
	3-Part			001	000
Length		pounds 725	78 775 840 883	84 860 930 976	90 920 995 1045



Granitine Laundry Tray, integrally cast in one piece, with metallic rim and wringer guards, brass strainers, rubber plugs and supported on painted steel frame.

Twin drain connection is furnished for two-part tray.

All trays have faucet holes partly drilled.

The Ajax trays are of a gray color while the Princess trays are white.

No.	No. of Comp	Length In.	Width In.	Depth In.	Weight Pounds	Price Ajax	E, EACH Princess
2	1	24	24	16	175	\$13.00	Timess
3	1	27	24	16	200	14.00	
4	1	31	24	. 16	225	15.00	
6	2	48	24	16	350	20.00	\$28.00
7	2	54	24	16	375	23.00	31.00
8	2	60	24	16	400	26.00	34.00
10	3	72	. 24	. 16	550	32.00	45.00

Faucets and steel frame extra.



Granitine Laundry Tray, integrally east in one piece, with metallic rim and wringer guards, brass strainers, rubber plugs and supported on painted steel frame.

Twin drain connection is furnished for two-part trays.

All trays have faucet holes partly drilled. Ajax trays are of a gray color while the Princess are white.

			-				
	No. of	Length	Width	Depth	Weight	PRICE	EACH
No.	Comp.	In.	In.	In.	Pounds	Ajax	Princess
102	1	25	24	16	175	\$15.50	
103	1	27	24	16	200	17.00	
104	1	31	24	16	225	19.00	
106	2	48	24	16	400	28.00	\$40.00
107	2	54	24	16.	425	33.00	43.00
108	2	60	24	16	450	38.00	46.00
110	3	72	24	16	600	44.00	66.00

Faucets and steel frames extra.

No. 70 Quick Compression Double **Laundry Tray Faucets**

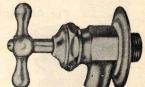


Quick-opening compression double laundry tray faucet with female unions for ½-inch iron pipe, hose end swing spout, and adjustable clamps.

Body rough brass, plated all over.
Price, No. 70, for 2-Part Tray each \$5.40

No. 30 Compression Wash Tray Faucets Short Pattern

Size	inches 1	6
Price, Finished		-
	each \$1	.55
Price, N. P	" 1	.85
Add for Female	Thread	
		15
Add for Ho	se End	. 10
	anch	25
	···· caci	20



No. 3571 Compression Sediment Faucets



IA	iale	tor	iron	Pipe

PRICE	EACH -
Rough	Add for
Nickel-	Loose Kev
plated	Handles
\$1.45	\$.50
1.90	.50

Wessels Laundry Tray Frames



No	Lgth	.Width	Ht.	Wt. Lbs.	Price		Lgth	Width	Ht.	Wt.	Price	
						No.	In.	In.	In.	Lbs.	Each	
					\$2.00	107	46	17	18	161/2	\$2.50	
102	24	17	18	12	2.00						2.75	
6	40	15	18	14	2.00						2.75	
106	40	17	18	14	2.00						3.00	
7	46	15	18	16	2.50						3 00	

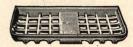
No. 104 Twin Drain Connections



The twin drain connection is furnished with two-part trays so that only one drain connection or trap is required. May be furnished with or without internal overflow.

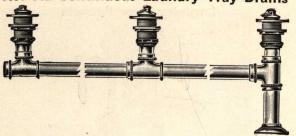
Price, with Overfloweach \$3.50 Price, without Overflow.....each 3.00

No. 182 Soap Dishes for Alberene Trays



Price,	Galvanized Ironeach	\$.65
"		1.00

No. 912 Continuous Laundry Tray Drains



Inlets not to exceed 271/2 inches center to center.

PRICE, EACH					10	PRICE, EACH	
Size	No.	Rough	Fin. or	Size	No.	Rough	Fin. or
In.	Parts	Brass	N.P.	In.	Parts	Brass	N.P.
11/2	2	\$2.85	\$3.60	11/2	4	\$5.45	\$6.20
11/2	3	4.15	4.90	- /2		40.10	ψ0.20

Laundry Tray Plugs For Alberene Laundry Trays





No. 181

Price, No. 181 Laundry Tray Plug with Locknut and Couplingeach
Price, No. 180 Laundry Tray Plug with Bolts ... "
70

No. 100 Galvanized Adjustable Sink Traps



Tight joints. Universal in adjustment. Galvanized cast iron body. Nickel-plated brass slip joint nut and coupling nut. Brass trap screw.

Price, 11/2-inch Iron Pipe, 11/2-inch Slip Joint Nut. each \$2.50 11/2 " " " 1/4 " " " " " 2.65

No. 66 Cast Iron Traps



 Tapped 1½ inches.
 Cleanout, 1½ inches.
 Body, 3x8 inches.

 Price, No. 66.
 each \$2.90



Fig. 561

Heavy Vitreous China Pedestal Drinking Fountain with receptor, nickel-plated brass strainer, cast brass supply and waste connection, nickel-plated self-closing stop with loose key volume regulator at side of pedestal, floor screws with nickel-plated cap nuts, two-stream mound building projector and automatic stream control.

Receptor 10x13 inches Height to top of pedestal 30 or 36 inches Depth of receptor inside 3½ inches Diameter of pedestal at floor 15 inches

Height inches 30 36
Approximate Shipping Weight pounds 85 95



Fig. 562

No. 605 Heavy Vitreous China Wall Drinking Fountair with integral trap housing, concealed wall hanger, nickel plated brass strainer and wall bolts, self-closing stop with cross handle, loose key stop and union for 3%-inch supply, rough brass trap for 1½-inch iron pipe, two-stream mound building projector and automatic stream control.



The converging of the 2 streams of water sets up an interference in the stream, retarding the movement of the water at the apex of the arc, making it impractical to drink from any other point. Can be furnished with bypass valve, for continuous flow of water.



No. 611 Heavy Vitreous China Wall Drinking Fountain with integral back and concealed hangers, two-stream moundbuilding projector and Taylor automatic stream control, self-closing stops with 4-ball china indexed handles, loose key volume regulators and $\frac{3}{8}$ -inch nickel-plated iron pipe supply, nickel-plated self-closing glass filler through back, $1\frac{1}{4}$ -inch nickel-plated brass trap and nickel-plated brass strainer.

Length over all 24 inches Wall to front of fountain 13 inches Wall to drinking stream 8 inches Depth of receptor, 3½ inches Height of back 10½ inches

Approximate Shipping Weight.....pounds 75



Fig. 571

Delavan Enameled Iron One-piece Drinking Fountain with flat back, on concealed hanger, complete with china non-squirting bubbler with nickel-plated brass arm, flow regulator and push button valve with china index, 11/4-inch P trap and open strainer.



No. 542 Wall Fountain with heavy vitreous china bowl mounted on cast iron bracket to wall, nickel plated brass strainer, 3¾-inch nickel-plated guard ring, self-closing stop, loose key volume regulator; furnished with 4-stream angle jet projector. Finished in baked grey enamel.

Approximate Shipping Weight pounds 20



No. 617

Nos. 617 and 618 Pedestal Drinking Fountain with heavy vitreous china receptor, nickelplated brass strainer, 2½-inch O. D. steel tubing standard and cast iron closed base, nickelplated self-closing stop, loose key volume regulator, two-stream mound building projector and automatic stream control, 3%-inch iron pipe supply and 1-inch iron pipe waste.

Receptor, 7½x10 inches Depth of Receptor, 3 inches Base, 9½ inches

Height ... inches Approximate Shipping Weight. lbs. 50



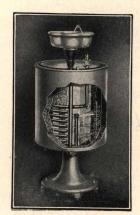
No. 547 Halsey Taylor Pedestal Drinking Fountains

Heavy vitreous china receptor with No. 509 fountain head with four stream angle jet projector, 3\%-inch guard ring, self-closing lever handle valve, loose key volume regulator, 2\%-inch outside diameter steel tubing standard with closed iron base, \%-inch galvanized supply and 1-inch galvanized waste pipes concealed in standard.

Diameter of receptor, 9½ inches. Diameter of base, 9½ inches.

Height.		inches	36	39
Approx.	Shipping	Wt lbs.	45	52





Water Coolers with Bubbler No. 800

39

50

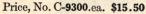
This cooler is designed to connect to pressure lines. The drinking water does not come in contact with either the ice or the melted ice water, but is circulated through a brass coil which is tinned inside and outside. The cover, top and base are made of cast iron. The body, tank and coil guard are made of galvanized sheet iron. Insulation is cork in the side walls and cork board in the bottom and cover.

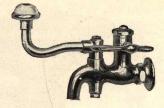
Bowl with side stream bubbler and automatic stream control.

Height of chamber 19 inches Diameter outside 19 inches Shipping weight...pounds 155 Price, No. 800each \$72.00

No. C-9300 Drinking Fountain Bubblers

N. P. combination bubbler and faucet with lever handle self-closing valves swinging bubbling cup with concealed regulating screw and china nozzle.





No. C-9700 Drinking Fountain Bubblers

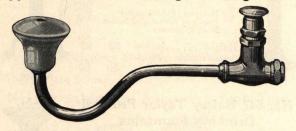


Nickel-plated brass combination bubbler and basin faucet with lever handle self-closing valve, swinging bubbling cup with concealed regulating screw and china nozzle.

Price, No. C-9700. ea. \$17.50

When arm is brought forward in alignment with faucet, the water flows through the china bubbler, and when bubbler arm is turned to either side, water flows through faucet only.

Type 29 China Self-closing Bubbling Heads



China straight stream bubbling head with nickel-plated supply arm and push button, self-closing stop and threaded %-inch iron pipe.



No. 8800 Cafeteria Glass Fillers

Nickel-plated brass selfclosing cafeteria glass filler with rigid spout and regulating screw. Connection for ½-inch iron pipe female.

Price, No. 8800. each \$10.00

Type L Brass Bubbling Heads



A rough brass, nickel-plated bubbling head with volume regulator, threaded ½-inch male iron pipe.

Price, Type L. each \$1.80

Self-closing Bubbling Heads





Nickel-plated brass lever handle ball bearing self-closing stop and bubbling head.

Price, Type E with N. P. Brass Bubbling Head..each \$5.80
" China Bubbling Head..... " 7.55

No. 564 Fountain Heads

Made from vitreous china with nickel-plated brass base and projector. Has 2-stream converging side stream projector which produces a practical drinking mound at highest point of projection. An interference is set up in the stream which retards the movement of water at apex of are—stream automatic controlled.



China Bubbling Heads



Type 26

Price, Type 26, Straight Stream, Threaded 4inch Iron Pipe . . . each \$3.00

Price, Type 27, Straight Stream, Volume Regulator, 3/8-inch iron pipeeach 4.40



Type 27

Type D Drinking Fountain Bubblers



Nickel-plated cast brass bubbling head with volume regulator.

Price, Type D.....each \$3.75

Type J Drinking Fountain Bubblers



China bubbling head with volume regulator.

Price, Type J.....each \$5.50



Fig. 591

Syphon Jet Closet Combination with vitreous china silent syphon jet bowl with floor outlet, white celluloid covered seat and cover with white hinges, vitreous china straight front tank with top-side lever, china handle and escutcheon, elevated high pressure float valve with copper float, rubber ball flush valve, nickel-plated supply pipe to wall with china handle stop and china escutcheon, 2-inch nickel-plated flush connection, vitreous china flush pipe cover, tank screws, floor screws and china caps.

Height of bowl, 15 inches; opening of bowl, 10x12 inches; water surface, 9x10 inches; water seal, 3 inches.

Approximate Shipping Weight.....pounds 170



Fig. 592

Syphon Jet Closet Combination with vitreous china silent syphon jet bowl with extended front lip, floor outlet and top inlet, white celluloid covered open front seat with cover and white hinges, vitreous straight front tank with rubber ball flush valve, top-side lever with china handle, elevated high pressure float valve with copper float, nickelplated supply pipe to wall with china handle stop and china escutcheon, 2-inch brass flush connection, vitreous china flush pipe cover, tank screws, floor screws and china caps.



Fig. 593

Syphon Jet Closet Combination with vitreous china syphon jet bowl with floor outlet and top inlet, white celluloid covered seat and cover with nickel-plated brass bar hinge, vitreous china straight front tank with top-side lever with china handle, rubber ball flush valve, high pressure float valve with copper float, nickel-plated supply pipe to wall with china handle stop valve and china escutcheon, 2-inch brass flush connection, vitreous china flush pipe cover, tank screws, floor screws and china caps.

screws, floor screws and china caps.

Height, 15 inches; opening of bowl, 10x12 inches; water surface, 9x10 inches; water seal, 3 inches.

Approximate Shipping Weight.....pounds 150



Syphon Jet Closet Combination with vitreous china syphon jet bowl with extended front lip, floor outlet and top inlet, white celluloid covered open front seat with cover, nickel-plated brass bar hinge, vitreous china straight front tank with rubber ball flush valve, top-side lever with china handle, high pressure float valve with copper float, nickel-plated supply pipe to wall with china handle stop and china escutcheon, 2-inch nickel-plated brass flush connection, vitreous china flush pipe cover, tank screws, floor screws and china caps.

Height, 15 inches; opening of bowl, 10x14 inches; water surface, 9x11 inches; water seal, 3 inches.

Approximate Shipping Weight....pounds 154



Fig. 601

Reverse Trap Closet Combination with vitreous china reverse trap syphon action bowl with floor outlet and back inlet with 2-inch brass spud, white celluloid covered seat and cover with nickel-plated brass bar hinge, white vitreous china straight front tank with rubber ball flush valve, topside lever with china handle, high pressure float valve with copper float, nickel-plated supply pipe to wall with china handle stop valve and china escutcheon, 2-inch nickel-plated flush connection, tank screws, floor screws and china caps.

Height of bowl, 15 inches; opening of bowl, 10x12 inches; water surface, 9½x10½ inches; water seal, 3 inches.

Approximate Shipping Weight.....pounds 140



Fig. 602

Reverse Trap Syphon Combination with vitreous china reverse trap syphon action bowl with floor outlet and back inlet with 2-inch brass spud, mahogany finished seat and cover with heavy nickel-plated brass bar hinge, white vitreous china straight front tank with rubber ball flush valve, topside lever with china handle, high pressure float valve with copper float, nickel-plated supply pipe to floor with escutcheon, nickel-plated flush connection, tank screws, floor screws and china bolt caps.

Height of bowl, 15 inches; opening of bowl, 10x12 inches; water surface, 9½x10½ inches; water seal, 3 inches.

Approximate Shipping Weight.....pounds 135



Fig. 603

Syphon Washdown Closet Combination with vitreous china syphon washdown bowl with floor outlet, white celluloid covered seat and cover with concealed bar hinge, vitreous china straight front tank with rubber ball flush valve, top-side lever with china handle and escutcheon, high pressure float valve with copper float, nickel-plated supply pipe to wall with china handle stop valve and china escutcheon, nickel-plated brass flush connection, tank screws, floor screws and china bolt caps.



Fig. 604

Syphon Washdown Closet Combination with vitreous china syphon washdown bowl with floor outlet, mahogany finish seat and cover with concealed bar hinge, vitreous china straight front tank with rubber ball flush valve, topside lever with china handle, high pressure float valve with copper float, nickel-plated supply pipe to floor, nickel-plated brass elbow flush connection, tank screws, floor screws and china bolt caps.



Fig. 611

Syphon Wash Down Closet Combination with vitreous china syphon wash down bowl with extended lip and floor outlet, mahogany finish open front seat and cover with concealed bar hinge, vitreous china straight front tank with rubber ball flush valve, top lever china handle, high pressure float valve with copper float, nickel-plated supply pipe to floor, nickel-plated brass elbow flush connection, tank screws, floor screws and china caps.

Height of bowl, 15 inches; opening of bowl, 10x12 inches; water surface, 8x9 inches.

Approximate Shipping Weight.....pounds 127

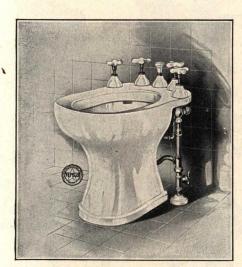


Fig. 612

Vitreous China Bidet with integral overflow, separate combination supply fittings to both rim and bidet with compression valves with four arm china handles and china escutcheons, pop-up drain with china knob, nickel-plated supply pipes with straight stops and china escutcheons.

Height 16 inches Width 15 inches Length over all 23 inches

Approx. Shipping Weight.....pounds 100



Fig. 613

Madevine Durock Vitreous China Wall Blow-Out Pattern Closet with wall outlet, extended front lip and top inlet, 1½ or 1½-inch brass spud, mahogany finished open front seat, no cover, with heavy nickel-plated brass bar hinge and nickel-plated brass flush valve with china oscillating handle, loose key angle stop and seat bumper.

Approximate Shipping Weight.....pounds 107

Opening of bowl 11x15 inches, water surface 10x13 inches and 3-inch water seal.



Fig. 614

Syphon Jet Closet Combination with vitreous china syphon jet bowl with extended lip and top supply, birch mahogany finish extended open front and back seat with nickel-plated bar hinge, nickel-plated Royal flush valve with side inlet, 1-inch ground joint union angle stop, china oscillating handle, 1½-inch nickel-plated flush connections, nickel-plated brass wall and spud flanges, wall seat bumpers and china bolt caps.

Approximate Shipping Weightpounds 115



Fig. 621

Reverse Trap Closet Combination with vitreous china reverse trap bowl, golden oak or birch mahogany seat with cover and nickel-plated cast brass hinges, nickel-plated Royal flush valve with oscillating china handle, and side supply inlet, seat bumper on valve, 1-inch wheel handle angle stop with union, 1½-inch O. D. elbow flush connection, and brass floor flange, bolts and washers and china bolt caps.

Approximate Shipping Weight.....pounds 80

Can be furnished without cover on seat or with white celluloid covered seat and cover.



Fig. 622

Syphon Wash Down Closet Combination, vitreous china syphon wash down bowl, golden oak or birch mahogany seat with cover and nickel-plated cast brass hinges, nickel-plated Royal flush valve with oscillating china handle, side supply inlet, 1-inch angle stop, bumper on valve for seat with cover, brass floor flange, bolts and washers.

Approximate Shipping Weight.....pounds 80

Can be furnished without cover on seat; also with white celluloid covered seat and cover; with straight stop; also with jet in bowl.

Royal Flush Valves



Top View

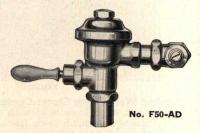
These are the only valves that flush the same amount of water at each operation regardless of whether handle or button is held or released, thus preventing either an excessive or insufficient flush.

They can be used on either direct or tank supply and do not require regulating for any variation in pressure.

The oscillating handle is the best method of operating flush valves ever devised, as a slight movement in any direction causes the valve to flush.

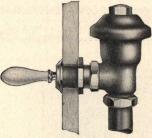
The top view shows regular inlet at B, but the valve can be furnished with inlet at A or C when so ordered.



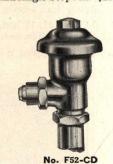


Price, No. F50, with China Handle and Straight Stop.ea. \$23.00

Price, No. F50-AD, with China Handle and Angle Stop.ea. \$23.00



No. F55 Concealed Type

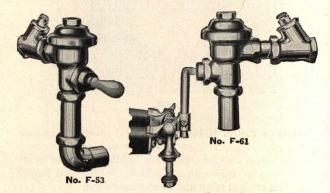


Price, No. F52-CD, with Push Button and Angle Stop and Outlet 21 In. Long

Price, No. F55 with China Handle or Push Button and Straight Stop. ea. \$26.00

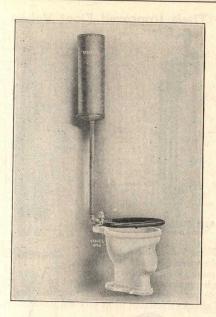
and Angle Stop and
Outlet 21 In. Long
......each \$24.50

Side View



Price, No. F53, with China Handle, and Straight Stop, and Elbow Flush Connection for Side Spud Bowl ... each \$24.50 Price, No. F61, Seat Operated with Straight Stop,

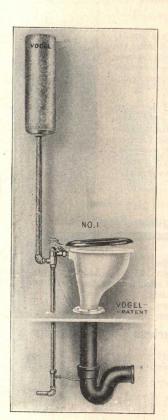
Check Hinge and Open Front and Back Whale-bonite Seat.....each 55.00



No. 9 Vogel Automatic Syphon Action Closet Combination, with vitreous china syphon action bowl, heavy golden oak seat with nickel-plated brass hinges, galvanized iron pressure tank, nickel-plated automatic seat-acting flush valve and galvanized flush pipe.

Approximate Shipping Weight.....pounds 100

Can be furnished with syphon jet bowl, extended lip, enameled tank or nickel-plated flush pipe and fittings.



No. 1 Vogel Automatic Enameled Iron Hopper Combination. tall oval enameled inside iron roll flush rim hopper with reenforced hardwood seat, 8x24-inch galvanized pressure tank, supply and flush valves, 39-inch valve rod and casing.

Approximate Shipping Weightpounds 100

Can be furnished with hopper and spigot outlet, enameled inside and out, with earthenware bowl. or with self-raising seat.

The bowls have special design, one-half roll enameled rims.

This closet combination is simple, strong and durable, and requires no pit.

It is quickly and economically installed, as the valve may be covered with earth as soon as connection with the water supply is made. The valve parts can be easily removed from above the floor.

Syphon Jet Closet Bowls



Vitreous china syphon jet closet bowl with floor outlet, top inlet and 11/4, 11/2 or 2-inch brass spud.

Height, 15 inches; opening of bowl, 10x12 inches; water surface, 9x10 inches; 3-inch water seal.

Price.....

.....each \$23.00

Syphon Jet Closet Bowls

Vitreous china syphon jet closet bowl with extended front lip, floor outlet, top inlet and 11/4, 1½ or 2-inch brass spud.

Height, 15 inches; opening of bowl, 10x14 inches; water surface, 9x11 inches; 3-inch water seal.



Fig. 632

Price.....

..... each \$26.00

Reverse Trap Closet Bowls



Vitreous china reverse trap closet bowl with jet, floor outlet, back inlet and 11/4, 11/2 or 2-inch brass spud.

Height, 15 inches; opening of bowl, 10x12 inches; water surface, 91/4x101/4 inches; 3-inch water seal.

Fig. 633

Price....

.....each \$16.00

Syphon Wash Down Closet Bowls

Vitreous china syphon action wash down closet bowl with jet, floor outlet, back inlet and 11/4, 1½ or 2-inch brass spud.

Height, 15 inches; opening of bowl, 10x12 inches; water surface, 8x9 inches; 23/4-inch water seal.



Price.....each \$14.00

Vitreous China Low Tanks



Fig. 641

Vitreous china straight front low tank with china handle top-side lever, elevated float valve with copper float, rubber ball flush valve, nickelplated supply pipe to floor and 2-inch nickel-plated flush connection and tank screws.

Price, 7-Gallon. ..each \$29.00 Price, 8-Gallon. ..each 35.00

Chino Closet Tanks



Chino White Finish Composition Closet Tank with high pressure bottom supply float valve, flush valve with rubber float, double acting china swing lever, 38-inch No. 14 gauge nickel-plated supply pipe with metal flange, 2-inch nickel-plated flush connection with coupling nuts and supporting screws.

Capacity, 8 gallons.

Outside depth, 18 inches.

Outside length, 21½ inches. Outside width, 7½ inches. Approximate shipping weight, 55 pounds.

.....each \$16.00

Enameled Iron Low Closet Tanks



Enameled in and out iron square front low tank, double-action lever with china handle, brass fitting, nickel-plated supply and 2-inch flush connection.

Width, 2034 inches. Height over all, 16 inches. Wall to front, 634 inches. Price...ea. "without Fittings.ea.

Iron High Closet Tanks

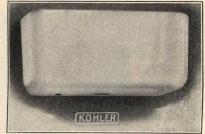
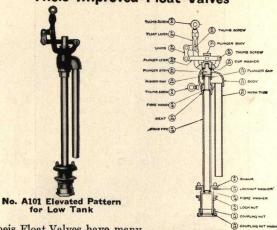


Fig. 644

Cast iron high tank with brass fittings, chain and pull.

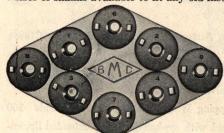
Sizeinches	18x10x9	20x10x10
Price, Enameled All Overeach		\$30.00
Price, Enameled Inside each	22.50	26.25

Theis Improved Float Valves



Theis Float Valves have many valuable features. Quiet in operation, compound lever for operating

under high pressure, easy replacement of all working parts, convertible from elevated to low pattern, and most important, 8 sizes of shanks available to fit any old installation.



Price, No. A101
for Low Tank
...each
Price, No. B102
Bottom Supply
for High Tank
...each
Price, No. C103
Submerged for
Low Tank
...each

View

Sectional

Interchangeable Shanks

Curtin Rotary Float Valves

A valve which noiselessly yet rapidly fills the tank under all conditions. On very low pressures, opening the by-pass screw A permits free passage of water through ball cock and insures quick filling of tank.

The powerful compound leverage, together with the silent operation and non-corrosive qualities recommend this valve. Furnished for high and low tanks. Back supply type with integral stop can also be furnished for the all-white bathroom with no exposed metal.

Prices upon application.

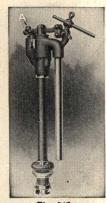


Fig. 645

No. 597 Regular Float Rods

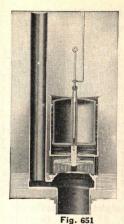
Length inches	6	7	9	10
Priceper dozen	\$1.00	1.10	1.40	1.60
With one end threaded re running thread for adjustmen	gular and	l float	ball end	with
Lengthinches Priceper dozen	6	8 1.60	10 2.00	12 2.40

No. 6707 Solderless Copper Floats

Price, No. 670	07, 4x5 Inche	s, Ovaleach \$1.00
Price, No. 67	07, 5 Inches,	Round



Fig. 646



Curtin Victory Flush Valves

Has a full, unrestricted waterway, and starts the siphon action immediately. It will, therefore, operate the largest closet with a minimum amount of water.

Refills any closet. No refill tube required. Has a flat leather seat washer which will not leak. A slight touch of lever lifts valve. Always finds its seat. Silent in operation. Float encased in cylinder is indestructible. Guiding bars insure positive seating of valve. Made of copper and cast composi-tion metal with no soldered parts.

Prices upon application.

No. 900 Monarch Flush Valves

Monarch flush valve with heavy brass overflow and galvanized counter weight and solid rubber plunger.

Body made of red brass, overflow made of heavy gauge brass.

For low and high tanks.

Price No. 900.....each \$4.50

No. 599 Douglas Flush Valves for Low Tanks



Price, No. 599, Complete with Ball and Stems. . . each \$3.00



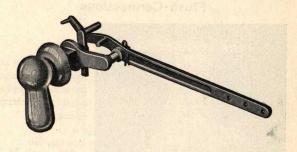
No. 18 Gooseneck Syphons

.....inches 11/4 Price, Galvanized.....each \$2.00

Gooseneck Syphons and Seats

No. 606 Gooseneck Syphon Seats Sizeinches 11/4 Price, N. P. Brass each \$1.40 1.80

No. 240H Dececo All White Flush Levers



Dececo all white flush lever. Has integral china flange and double action brass lever.

Price, No. 240Heach \$1.25

No. 55 E.Z. Rotary Flush Levers



Handle rotates in either direction. Moving parts are frictionless.

Simple in construction and easy to install. Adjustable to any thickness of tank wall by means of telescoping shaft. Assembles in tank easily and quickly by the removal and replacement of one nut. Square on shank to fit \(\frac{5}{8} \)-inch opening in tank. Can furnish \(\frac{1}{16} \) or \(\frac{3}{4} \)-inch square when specified.

Price, No. 55.....each \$1.50

No. 9366 Overflow Tubes for Flush Valves



inches

No. 72 Wires for Tank Balls

Top Wire Priceper dozen \$1.90

Bottom Wireper dozen \$1.20

No. 60 Refill Tubes

Price, 10-inch, for Elevated Float Valves. .per dozen \$2.70 13 " " Low Down "

No. 245 Dececo Straight China Cased Closet Flush Connections



Complete with rough brass inside parts and two-piece adjustable china casing.

Price, No. 245 .. each \$4.75

No. 246 Dececo Offset China Cased Closet Flush Connections

Complete with rough brass inside parts and two-piece adjustable china casing.

1, 11/2 or 2-inch offset.

Price, No. 246 .. each \$4.75



No. 247 Dececo Elbow China Cased Closet Flush Connections



Complete with rough brass inside parts and two-piece adjustable china casing.

Price, No. 247. each \$5.25

China Flush Pipe Covers



China Flush Pipe Cover slips over 2-inch flush pipe connections.

Offset Cover fits over offset of 1, 1½ or 2 inches.



Fig. 662

Price, Straight Cover with Spud Attached..... each \$6.90 Offset Cover with Spud Attached..... 6.90

Sani-Glaze White Offset Closet Connections

No. 200



Sani-Glaze White Covered Offset Connection for low tank closets. Brass tubing offset, cast brass lacquered nuts, rubber slip joint washers, spun brass escutcheon.

Packed 1 set in a box.

		PRICE,	EACH -	
Size In.	Less Nuts	With Nuts	With No. 500 Escut.	With No. 525 Escut.
2x 1/2x6	\$1.05	\$1.55	\$1.70	\$1.95
2x 3/4x6	1.15	1.65	1.80	2.05
2x1 x6	1.25	1.75	1.90	2.15
2x1½x6	1.35	1.85	2.00	2.25
2x2 x6	1.45	1.85	2.10	2.35

No. 300 Straight Connections 6 \$.75 \$1.25 \$1.40 \$1.65 2x6

Sani-Glaze White Elbow Closet Connections

No. 100

Sani-Glaze White Covered Elbow Connection for low tank closets. Brass tubing elbow, cast brass lacquered nuts, rubber slip joint washers, spun brass escutcheon.

Packed 1 set in a box.

			Davos	T7	
			—PRICE,	With	With
Siz		Less	With		No. 525
In		Nuts	Nuts	Escut.	Escut.
2x31	2x5	\$1.15	\$1.65	\$1.80	\$2.05
2x4	x6	1.25	1.75	1.90	2.15
2x5	x6	1.35	1.85	2.00	2.25
2x5	x7	1.45	1.95	2.10	2.35
2x5	x8	1.55	2.05	2.20	2.45
2x6	x8	1.65	2.15	2.30	2.55



Slip Joint Elbows For High Tank

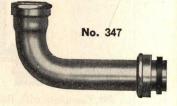
Nickel-plated, with 2inch wrought brass nuts and rubber washers.

Size	Length	Price
In.	In.	Each
11/4×11/4	3	\$.75
11/4×11/2	6	1.00
$1\frac{1}{2} \times 1\frac{1}{2}$	6	1.20

No. 787 Slip Joint Elbows For Low Tank

Nickel-plated, with two 2inch iron pipe size cast nuts and rubber washers.

Size	Price	Size	Price
Inches	Each	Inches	Each
31/2×5	\$1.30	5x6	\$1.75
4 x6	1.50	6x8	2.00



Closet Flush Connections No. 885 Offset Connections



Nickel-plated, with two 2-inch iron pipe size

nuis anu ru	ober washers.
Size Inches	Price Each
1	\$1.30
11/2	1.50
2	1.70
2½ 3	1.90
3	2.10
31/2	2.30
4	2.50



No. 1497 Straight Connections

Nickel-plated, with two 2-inch iron pipe size nuts and rubber washers. Price each \$.90

Nickel-plated Cast Brass Slip Joint **Nuts and Washers**

No. 514



No. 678 Cast Brass Closet Spuds

Dipped Brass

I. P.		
I. P. Size Inches	Price Each	
11/4		
11/2	\$.60 .60 .75	
2	.75	Sportstate and

No. 7021 Closet Spuds Dipped Brass

Price, 11/4-in. with Locknut Only .. ea. \$1.00 "



No. 483 Closet Spud Reducers



Price,	2x11/4-inch	 	 eacl	\$1.00
			"	1.25

Brass Rods

Continuous Thread

No. 30

Brass 1/4-inch continuous thread rod made in any length. Specify length in ordering.per foct \$.12

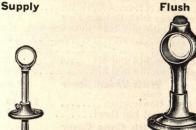
No. 12152 Closet Tank Screw Hooks



Lengthnches	21/6
Length	\$10.00 45.00

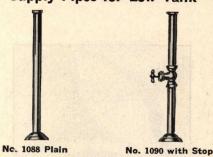
Flush and Supply Pipe Holders

(
,		1	
	П		
	Ш		



	Const Career		
Size Inches	72 Price Each	Fig. 673 Size Inches	Price Each
3/8 I.P.		1½O.D.	
½ I.P. ¾ O.D.		13/8O.D. 11/2O.D.	

Supply Pipes for Low Tank



Gaugenumber	14	I.P.
Size inches Price, N. P., Plain each	$\frac{21}{32}$	3/8
" with Cock each	\$2.00	\$2.50

Closet Flanges Screwed for Iron Pipe



These closet flanges stand for testing, and also serve as protection from the time of roughing-in until the job is finished. They also save time of fitting to the tile or cement floors, as the tile setters finish up to the flange. By striking with a cold chisel and hammer at the points

indicated, the cover can easily be removed.

Furnished in cast iron and brass. In brass, the closed ends can not be moulded for testing as in cast iron.

Cast Iron



Female I. P.

4 21/4

Female I. P

Diam. In.

3

No.

2100

2105

2113

2110

Depth In.

13/4 31/2

33/4

Male I. P

PE

\$1

\$2.80

rice lach	No.	Diam. In.	Depth In.	Price Each
.15	2100	4	13/4	\$2.60
.10	2105	4	31/2	5.50
.70	2113	3	33/4	5.50
		Male	I.P.	

Closet Screws and Washers



No. 5474 Round Washer



2110

No. 5458 N. P. Closet Screw with Brass Head and Oval Washer.... \$5.00

No. 12232 N. P. Brass Closet Bolt, with N. P. Head and Heavy Oval 15.00 Brass Washer. No. 5474 Round Washers 2.00

5586 Oval No. 5458 Closet Screw



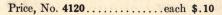
\$5.75

Closet Bolt and Washer

No. 4120 Vitreous China Bolt Caps

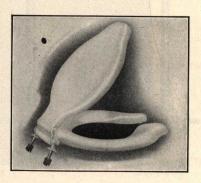
For Floor Screws

White vitreous china bolt caps to set over brass floor screws.





No. 186 Sani-White Closet Seats



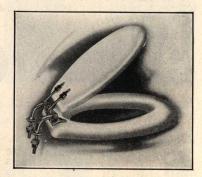
Sani-White open front full saddle seat and cover for extended lip bowl, all white including hinges and white cushion bar bumpers. Exposed metal eliminated.

Price, No. 186.....each \$23.90

No. 480 Sani-White Closet Seats

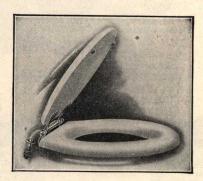
Sani-White plain pattern seat and cover with nickel-plated, heavy cast brass closrufing hinge and white cushion bar bumpers.

For regular bowl.



Price, No. 480, with Cover, Plain Pattern....each \$15.00 Price, No. 380, with Cover, Full Saddle....each 16.11

No. 425 Sani-White Closet Seats



Sani-White 1½-inch square back seat and cover, reinforced front and back with spiral grooved dowels, heavy nickel-plated brass bar hinge. For regular bowl.

Price,	No.	425,	with Cover	\$12.00
			without Cover	8 80

No. 142 Sani-White Closet Seats



All Sani-White plain pattern seat and cover with concealed hinge, white posts, and white rubber bumpers. No exposed metal.

For regular bowl.

Price,	No.	142,	with Covereach	\$16.67
"	"	150.	without Cover	10 56

Little Toidey Closet Seats

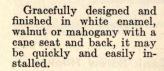


Finished in celluloid pyroxylin, pastel pink or blue with comfortable back rest, high side arms of nickeled rods, and a white leather strap in front, which form a strong safe enclosure. Little Toidey slipseasily onto the top of the big seat, the patent clasps gripping through the inside of the hole, at front and back so it cannot be wiggled off. Pat-

covered, and bottom of seat fitted with rubber bumpers. Readily opened and folded, yet cannot collapse. Packed in a neat box. Size folded, 12x10x3½ inches. Weight, 2½ pounds.

Price, Closed or Open Front Seat.....each \$4.85

Closet Chairs

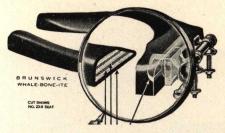


The front rail is attached to the seat and is raised with the seat, thus overcoming all insanitation.



Height Over All	inche ubber Tip	s 32
	inche	s 193/4
Height of Front Legs with Rubber Tips	inche	s 17
Extreme Inside Width of Chair Between	Side Rail	S T.
W: 141 CD 1	inche	$s 14\frac{1}{4}$
Width of Back	inche	s 15
Height of Back, Nos. 316 and 317	inche	s 13½
Height of Back, Nos. 318 and 319	inche	s 181/4
With Wood Cover		
No. Style	White	EACH—
		Walnut
	\$26.30	\$24.80
For Extended Lip Bowl	27.80	26.30
With Cane Cover		
316C For Oval Bowl	\$28.50	\$27.00
For Extended Lip Bowl	31.00	29.50
318C For Oval Bowl		
	29.50	28.00
319C For Extended Lip Bowl	32.00	30.50
Nos. 316 and 317 for use with tank or flu	sh valve.	
Nos. 318 and 319 for use with flush valve	only.	

Whale-Bone-Ite Closet Seats



Made of a laminated core with layers running crosswise and covered with a sealed composition of whale-bone-ite which is put on in its softened state under heavy hydraulic pressure, anchoring covering to core, then vulcanized. Has high polish, is sanitary and impervious to moisture and the action of uric acid. Has no joints to open.

Whale-Bone-Ite Extended Open Front Closet Seats



No. 21-9 without Cover

Whale-Bone-Ite extended open front seat without cover with nickel-plated bar hinge and straight seat posts. For all extended lip bowls. Price Fh

rrice,	Wanogany Finish	\$14.80 18.30
Price.	No. 21-91 with Cover Ebony Finisheach Mahogany Finish	\$26.00 30.00

No. 16-91 Whale-Bone-Ite Saddle Seats with Cover



Whale-Bone-I te saddle seat with cover and nickel-plated bar hinge with straight seat post, for all staple type bowls.

Price, No.	16-91,	Ebony Finish ea	ch \$25.80
" "	16-91,	Mahogany Finish "	30.80

No. 24-9 Whale-Bone-Ite Oval Seats without Cover



Whale-Bone-Ite oval seat without cover with nickel-plated

bar hinge and straight seat posts, for all staple bowls.

Measures from hinge posts center to front edge of seat,
1734 inches long, 14½ inches wide. Hole 934 inches long, 8 inches wide.

No. 177 Closet Seats



1½-inch selected quarter sawed oak seat with open front and square back, fitted with heavy cast brass hotel hinge.

Price, No. 177 Natural, Antique, or Golden Oak, Imitation Mahogany or Imitation Cherry, Rubbed Finish \$7.70

No. 120 Closet Seats



Plain, oval oak square back seat and cover with nickelplated cast brass bar hinge.

Price, No. 120each \$5.00

No. 14 Close Rough Closet Seats



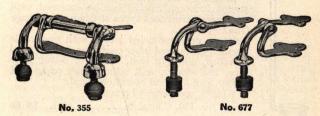
Oak oval seat and cover with nickel-plated close rough bar hinge.

For close roughing-in of regular bowl.

Furnished in plain or quartered oak, in golden, antique, or natural color, imitation mahogany and ebony finish and genuine walnut.

Price, Oak and Imitation Mahogany Finish each \$6.70 Ebony Finish "
Genuine Walnut " 8.00 9.10

Closet Seat Hinges



Price, No. 355 Nickel-plated Cast Brass Offset Bar Hinges ... per pair \$1.50
Price, No. 677 Nickel-plated Cast Brass Offset Hinges...... per pair 1.25

San-Equip Waterless Toilets With Improved Self Drain Storage Tank



This model provides intensive chemical treatment of the sewage in the first chamber of a two-chamber tark. Solids are retained until liquified and sterilized and then discharged auto-matically into a small filter pool close to the top of the ground. A small chemical supply monthly is the only care or expense. Marked advantages are; no handling of sewage or apparatus, easy installation, less care, less cost because smaller systems may be used and safer disposal of small amount of liquid daily instead of a tank full at one time.

Each system consists of the following: 1 best grade vitreous china bowl with oak finish non-split seat; 12 feet of ventilating pipe, 10 feet white enameled, 2 feet galvanized, roof flange and vent cap; 1 storage tank of heavy gauge copperoid iron with simple, efficient mixer, full change of chemical, pipe stay, toilet paper and holder, putty and roof cement.

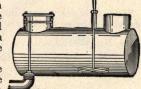
All storage tanks are rust-proofed inside and outside by a permanent mineral enamel.

	Cap.	Numb	ER OF P		Tank	Lgth. Tank	Ship. Wt.	Price
No.	Gals.	Home	School		In.	In.	Pounds	Each
360A	60	4	STATE OF		221/2	36	200	\$64.00
380A	80	7	15	12	221/2	48	275	76.00
3128A	128	12	25	20	28	48	325	88.00
*3129A	128	12	25	20	28	48	325	90.00
*Same	as No.	3128	excer	ot has	20-foot	t vent.		

With Drain Valve Tank

Drain valve toilet system with drain valve tank will be furnished where desired instead of the self-drain type. 4-inch outlet controlled by pressure

Made in two sizes for single bowl, also all sizes of multiple bowl systems. Made also in tight storage tank, no outlet. RATING
Cap. NUMBER OF PEOPLE
Gals. Home School Mill



Pounds

Lgth. Tank

380	V	80	4	10) 1	T	22/2	48	215	\$76.00
3128	8V	128	7	20) 1	5	28	48	325	88.00
*3129	9V	128	7	20) 1	5	28	48	325	90.00
*San	me a	s No.	3128	V e	xcept	has	20-foo	t vent.		
								upplie		Price
No.					100					Each
530A	Car	ton o	r Six	5-pc	ound	Cans	3			. \$5.60
510	10-r	ound	Can	for	60-g	callor	1 Sewa	ge		. 1.85
515	15	"	"	"	80	"	"	The state of the state of		
525	25	"	"	"	125	"	"			. 3.50
								A SHARL PROPERTY.	THE PARTY OF	

Chemical Commode Toilets

Tank

With Chemical and Vent Pipe

Provides a temporary toilet which may be installed indoors. Should not be confused with the larger permanent types of Chemical Storage Tank Systems.

Has a gray enameled jacket with removable 8-gallon galvanized inner container, oak finished dowelled, non-split seat, 7 feet of 3-inch gray pipe, two elbows, wall collar, toilet paper and holder, and 5-pound can of chemical. Weight, complete, 40 pounds.

Price, No. 130, Complete each \$8.90

Chemical Supplies for Commodes

Price, No. 505, 5-pound Can Dry Chemical, ½ Doz-	
en in Carton	\$1.00
Dozen in Caseper can	1.75
Above are suitable for use on any style of commode	toilet.

Steel Closet Partitions

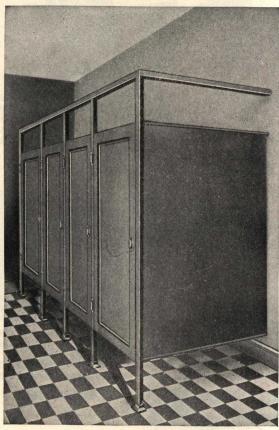


Fig. 701

Steel Closet Partitions with doors and all parts formed out of a special gauge steel of prepared metal furniture stock, annealed and patent leveled. Corners of doors are mitered and welded.

The doors are provided with self-closing spring hinges and bumpers with rubber cushions. They are also provided with double wardrobe hooks and sutstantial bolts on the inside. All hardware is finished in black or any finish desired.

The foot pieces are properly located and secured to the floor with expansion shields or bolts. The partitions are secured to the rear wall in the same manner as the starting standard, which is formed so as to make an angle to permit anchoring to the wall.

These closet compartment partitions are finished in baked japan in dark olive color. They may also be finished in light olive, black or maroon.

This steel work is sanitary, durable and economical and is easily erected. It is particularly commendable for use in school toilet rooms, and in factory toilet rooms.

May also be furnished without doors and with banks.

Standard sizes:

Depth: 3 feet, 3½ feet, 4 feet, 4½ feet or 5 feet.

Width: 2½ feet, 2¾ feet or 3 feet.

Height: 5½ feet from floor, partitions set 12 inches off

Prices upon application.

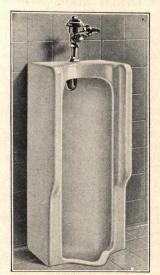


Fig. 711

Porcelain Urinal Stall with extended shield, nickelplated push button, Royal flush valve with back inlet and 1inch ground joint union angle stop, nickel-plated fan spreader with slip nut, nickel-plated brass outlet strainer and connection for lead or iron pipe.

> Height of stalls over all 41% inches Height of stall from floor line to top of stall 38 inches

Width	inches	18	24
	Weightpounds		

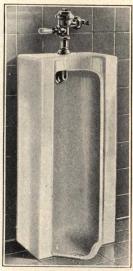


Fig. 712

Porcelain Straight Front Urinal Stall with nickelplated Royal flush valve with back inlet and 1-inch ground joint union angle stop, china oscillating handle, nickel-plated brass fan spreader with slip nut, nickel-plated brass outlet strainer and connection for lead or iron pipe.

> Height of stall over all 41¾ inches Height of stall from floor line to top of stall 38 inches

Widthinches	18	24
Approximate Shipping Weightpounds	345	415
Straight front pattern also made in vitreous chin 18-inch sizes.		



Duplex Semi - vitreous Porcelain Double Urinal Stall with center shield, drip receptors and center waste outlet, all in one piece, all exposed surfaces glazed, two integral vitreous spreaders with one inlet and brass spud, 3-gallon porcelain tank with automatic fittings, nickel-plated flush pipe, nickel-plated brass waste coupling with porcelain strainer.

The Duplex urinal stall has many advantages over the regulation stalls in cost of ir stallation and sanitary qualities. It eliminates the complete roughing-in of one urinal, one flush pipe and outlet connection. The flush spreaders are made an integral part of the stall, which eliminates two brass spreaders. All unsightly and troublesome joints are eliminated, insuring perfect sanitation

Fig. 713	
Width Over Allinches	24
Height " " "	46
" from Floor Line "	411/2
Wall to Front of Lip "	12
" " Center of Waste "	71/2
Approximate Shipping Weightpounds	325
Prices on porcelain urinals are for kiln-run ware. An	extra

Prices on porcelain urinals are for kiln-run ware. An extra charge is made for special selection.

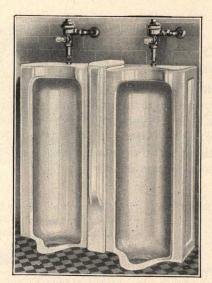


Fig. 714

Battery of Two Porcelain Urinal Stalls with integral drip receptor, separate porcelain seam cover with projecting shield, fitted with nickel-plated bronze Royal flush valves with china lever handles, loose key angle stop, nickel-plated inlet connection and spreaders, waste outlet strainers and vitreous china gratings.

Height over all 42¾ inches Height above floor 39 inches Wall to front of partition 13½ inches

Size inches	18	24
Approximate Shipping Weight, Each Stall pounds	260	320
Approximate Shipping Weight, Each Partition		0_0
·····pounds	90	90

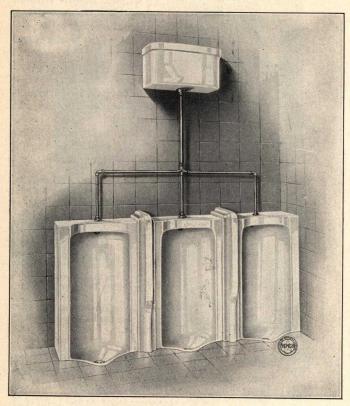


Fig. 721

Porcelain Urinal Stalls with Porcelain Overlap Partition Shields, vitreous china tank on concealed bar hanger operated by periodic discharge fitting with top supply, nickel-plated three-part flush connection, nickel-plated fan spreaders with slip nuts, nickel-plated outlet strainers and connection for either lead or wrought iron pipe.

Straight front pattern stalls only also made in vitreous china in 15 and 18-inch sizes.

Furnished also with integral hooded vent.

Height over all 41¾ inches Height from floor line 38 inches Wall to front of lip 15 inches

Widthinches	15	18	21	24
Length Over Three Stalls "		60		78
Approx. Shipping Weight, Porce-			A CO	
lain Stall, Eachpounds	275	320	360	390
Approx. Shipping Weight, Vit-			000	000
reous China Stall, Each pounds	310	345		
Approx. Shipping Weight, Two	010	010		
Partitions pounds	150	150	150	150
Approx. Shipping Weight, Tank	100	100	100	100
	110	110	110	110
Prices on porcelain urinals are	e for	kiln-	run v	vare.
An extra charge is made for special	select	tion.		
	CATTAGE CONTRACTOR	10 83 V/17 27 C T T T		



May be used singly or in batteries. Used with a seam cover it is a practical and sanitary installation.

Porcelain Extended Wing Front Urinal Stall with vitreous china four-gallon round front tank on concealed bar hanger, periodic discharge fitting, \(^3\)\sigma-inch iron pipe size top supply, nickel-plated brass flush pipe, nickel-plated brass fan spreader with slip nut, nickel-plated brass outlet strainer and connection for either 2-inch lead or iron pipe, and vitreous china strainer.

Height over all 41¾ inches Height from floor line 38 inches Wall to front of lip 15 inches

Width of Stall inches	18	24	
Approximate Shipping Weight, Urinal Only pounds	320	390	
Approximate Shipping Weight, Tank and Fittingspounds	60	60	

Prices on porcelain urinals are based on kiln-run ware. An extra charge will be made for special selection.

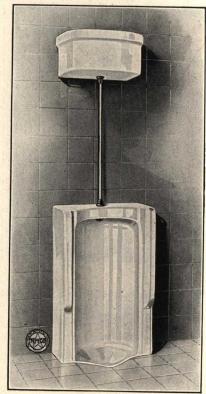


Fig. 722

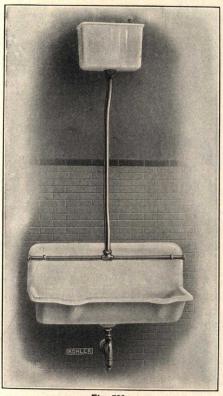


Fig. 731

Enameled Iron Roll Rim Lipped Urinal with integral back, concealed wall hangers, enameled iron tank with automatic flushing device and top supply, with stop, nickel-plated brass flush and perforated brass wash down pipe, finished 1¼-inch brass beehive strainer, and 1¼-inch nickel-plated bag trap.

Length Feet	Number of Lips	Approx. Shipping Weight Pounds	Length Feet	Number of Lips	Approx. Shipping Weight Pounds
2	1	130	31/2	2	185
2½ 3	1	150	4	$\bar{2}$	205
3	2	170	5	3	245

Can be furnished with bottom supply or chain and pull fittings.

Royal Flush Valves For Urinals

of water at each operation, and thus automatically prevent the user from causing either an excessive or an insufficient flush.

They can be used on plumbing fix-

They can be used on plumbing fixtures of any manufacture, on either direct or tank supply, and do not require regulating for any pressure between 5 and 100 pounds. They are noiseless, easy to operate, and have a wide range of operation.

These valves flush the same amount

wide range of operation.

Fitted with ½-inch angle stop, china push button, ¾-inch O.D. flush

connection, spud coupling and flanges.

Price each \$22.00

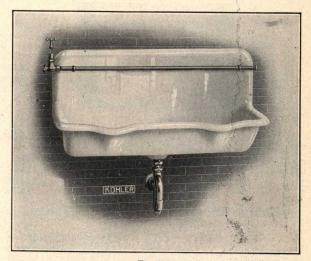


Fig. 733

Enameled Iron Roll Rim Lipped Urinal with integral back, concealed hangers, brass beehive strainer, finished brass perforated flush pipe with loose key stop and 1¼-inch nickel-plated offset P trap.

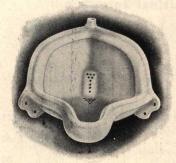
Length Feet	Number of Lips	Approx. Shipping Wt., Lbs.	Length Feet	Number of Lips	Approx. Shipping Wt., Lbs.
2	1	95	31/2	2	150
21/2	1	115	4	2	170
3	2	135	5	3	210



Vitreous China Bedfordshire Urinals

Vitreous china Bedfordshire flat back urinal with lip, earthenware horn inlet and outlet.

No	1 2 3
Sizeincl	hes 15x18 13x15 12x14
Price	



Vitreous China Bedfordshire Urinals

Vitreous china Bedfordshire corner urinal with lip, earthenware horn inlet and outlet.

Nosizeinches	1 13x13	2 11½x11½	3 10½x10½	
Price				

Solid Porcelain Urinal Tanks

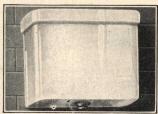


Fig. 741

Semi-vitreous porcelain urinal tank with one pair iron concealed hangers only. Made with top supply fittings only.

Capacity Galions	Lgth. Over All, In.	Width Inches	Depth Inches	Price Each
3	16	8	121/2	\$14.00
6	21	$10\frac{1}{2}$	$12\frac{1}{2}$	18.00

Kohler Enameled Iron Urinal Tanks

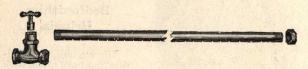


Enameled in and out 3-gallon automatic syphon flushing urinal tank with brass top supply fittings, for 3/s-inch iron pipe and flush valve with collar for 1-inch O. D. pipe.

Price, as Described . . ea. \$25.00

Can be furnished enameled inside only, with chain and pull fittings and bottom supply.

No. 5510 Urinal Wash Down Pipes with 1/2-Inch Compression Loose
Key Stop and Straps



Length	P	RICE, EAC	н	Length	The second second	PRICE, EACH-	
Urinal Ft.	N. P.	Fin.	Galv.	Urinal	N. P.	Fin.	Galv.
rt.	Brass	Brass	Iron	Ft.	Brass	Brass	Ioon
2	\$4.30	\$4.00	\$3.30	6	\$9.10	\$8.40	\$7.30
3	5.50	5,10	4.30	8	11.40	10.60	9.30
4	6.70	6.20	5.30	10	13.90	12.80	11.30
5	7.90	7.30	6.30				
If	without	Stop,	deduct		1.80	1.60	1.30

No. 1785 Urinal Spreaders



Fits a wide range of urinals and is regularly made with ½-inch iron pipe inlet.

Price, No. 1785 each	\$2.25
" " 1785, with \(\frac{3}{4}\)-inch O. D.	
Slip Inlet each	2.00
Add for Bushings to Slip 1, 11/8, or	
11/4-inch O. D each	.50



No. 208 Slip Joint 90° Brass Elbows

With Slip Joint on Both Ends

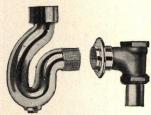
Q.	N. P.		N. P.
Size	Price	Size	Price
Inches	Each	Inches	Each
3/4	\$.65	11/4	\$.95
1	.95	1½ 1½	1.15

Urinal Traps

Nickel-plated Brass







No. 2 With Ground Joint

Price, No. 1 with Slip Joint Inlet, 1½-inch Iron Pipe Outlet, Nickel-plated each \$6.00 Price, No. 2 with Ground Joint Tee, Nickel-plated. " 9.75

Urinal Stall Strainers



Nickel-plated brass with 4½-inch flange and removable face.

For Lead Pipe No. 22590

Price, for 2-inch Lead Pipe....each \$3.50 " I. P. Female Pipe " 3.50

Vitreous China Strainer Covers



Price, Vitreous China Cover to fit over Brass Outlet Strainer....each \$1.00

No. 3645

No. 4244 Brass Beehive Urinal Strainers With Coupling



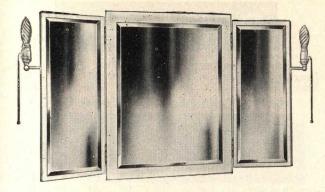
Size Outlet	Diam. Flange	PRICE, P	ER DOZEN-
Inches	Inches	Fin.	N. P.
11/4	3	\$30.00	\$36.00
11/2	3	42.00	48.00
2	4	60.00	66.00

No. 4241 Brass Beehive Strainers With Flange

Size	PRICE, P	ER DOZEN-
Inches	Fin.	N. P.
2	\$8.40	\$10.20
3	12.00	15.00
31/2	18.00	22.20
4	24.00	30.00



Model OSWE Milady Dressing Mirrors



For the dressing room, boudoir or over the lavatory. In addition to its adaptability to the home, the OSWE is

an ideal equipment for the beauty salon.

Mirror is constructed from heavy Armco metal and highly finished in white crystal snow. The master mirror is of highest quality plate glass 18x24 inches in size with a 1-inch bevel.

The wing mirrors are of same high quality bevel plate.

Model OSWE is equipped with pull chain sockets and frosted spiral globes on each wing.

Model OSW is furnished without the side electric lights.

	DIMEN	SIONS, IN	CHES
Description	Width	Height	Depth
Master Mirror	18	24	
Wing Mirror	9	24	
Over All Dimensions Main Frame		263/4	
Over All Dimensions Including Wings		263/4	
Size Body Flange	15/8		13/8
Shipping weight, 60 pounds.			
Price, Model OSWE, with Side Electric Lig	ghts e	each \$	50.00
Price, Model OSW, without Sidelights	6	each	40.00

No. 100 Recessed Steel Medicine Cabinets



Recessed steel medicine cabinet, white enameled all over, with bevel plate mirror, 3 adjustable crystal glass shelves, glass knob and white enameled hinges.

Height ir	nches	263/4
Width	"	203/4
Wall Opening	"	23½x17½
Size Mirror.	"	16x22
Price, No.	100	
	nach	\$29 50

Steel Wall Medicine Cabinets



Steel wall medicine cabinet white enameled all over, plain glass mirror, 3 glass shelves, white porcelain knob and white enameled hinges.

	Width	Height
No.	Inches	Inches
800	$20\frac{3}{4}$	243/4
816	163/4	$20\frac{3}{4}$
	Mirror	Price
No.	Inches	Each
800	14x18	\$18.00
816	12x16	15.00

Recessed Steel Medicine Cabinets

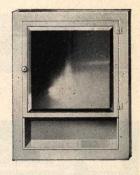
32.50

Recessed steel medicine cabinet with open recess shelf 6 inches high, white enameled all over, with bevel plate mirror, 3 adjustable crystal glass shelves, glass knob and white enameled hinges.

No.	Over All Inches	Wall Opening Inches
110	$20\frac{3}{4}x26\frac{3}{4}x5$	$17\frac{1}{2}x23\frac{1}{2}x3\frac{3}{4}$
1110	$20\frac{3}{4}x30\frac{3}{4}x5$	$17\frac{1}{2}x27\frac{1}{2}x3\frac{3}{4}$
N	Size Mirror	Price
No.	Inches	Each
110	16x16	\$28.00

16x20

1110

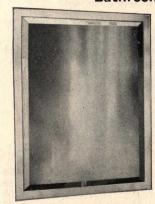


No. 610 Steel Recess Medicine Cabinets

White enamel all over, with plain plate mirror and open shelf, three adjustable glass shelves, porcelain knob, and white enameled hinges. No. 600 does not have open shelf.

	Over All	Wall Opening
No.	Inches	Inches
610	213/4x313/4	17½x27½
600	213/4x253/4	17½x21¾
710	173/4x273/4	133/4x233/4
700	173/4x213/4	133/4x173/4
	Mirror	Price
No.	Size, Inches	Each
610	14x18	\$20.50
600	16x20	20.00
710	12x16	16.50
700	12x16	15.00

Bathroom Mirrors



Beveled plate glass, white enameled narrow steel frame, ½ inch wide and ½ inch deep to screw to wall.

No.	Mirror Inches	Frame Inches	Price Each
		171/4x231/4	
		15¼x19¼ 13¼x19¼	
214	12X10	19/4×19/4	10.00

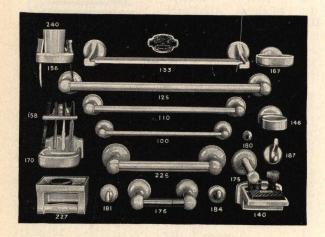
Bathroom Mirror Attachments



	No. 40	plated, highly I		
Price,	Shelf and Bracket Bracket and Tow		each	\$2.60
"	" Bracket and Tow	el Bar	"	4.20
"	Towel Bar and Bracket			1.70
"	" Dools		"	c 00

China Easy Set Bathroom Furnishings

No. 33 Display Boards



Carefully designed and constructed so as to display the features of the Chinawyte line to best advantage.

Covered with black velvet and fitted with all cleats in place ready to receive fixtures.

Charge is made for the articles only on the board as listed below. List consists of one of each number as shown.

Size, 32x22 inches.

No. 100 110 125 133	Description Towel Rack, 15-inch	Price Each \$1.50 2.60 4.30 5.80
140 146 156 158	Shaving Combination. Tumbler Holder. and Tooth Brush Holder. Tooth Brush Holder.	4.00 1.60 2.00 1.40
240 167 168 175	Opal Tumbler Soap Holder " Toilet Paper Holder	.50 1.90 2.00 1.10
176 225 227 180	Hand Rail, 12-inch and Soap Holder Water Bag Hook	3.30 4.80 4.00 .50
181 184 187	Razor Strop Hook Robe Hook Double Robe Hook	.60 .60 1.00

Price, No. 33 Display Board, as Listed. each \$43.50

No. 100 China Easy Set Towel Bars



 ½-inch solid opal bar, round china posts.

 Length of Bar.
 inches 15
 18
 24
 30

 Price, No. 100
 each \$1.50
 1.60
 1.90
 2.40

No. 110 China Easy Set Towel Bars



34-inch opal bar, china posts; base of post, 25% in. Length of Bar....inches 15 18 24 30 36 Price, No. 110.....each \$2.40 2.60 2.90 3.20 3.70

No. 123 China Easy Set Towel Bars



1-inch round white wood bar. Base of china post, 3 in.

Length of Bar. . . . inches 18 24 30 36

Price, No. 123 each \$3.70 4.30 5.00 5.80

No. 125 China Easy Set Towel Bars



1-inch solid opal round bar, chin posts. Base 3 in. diam.

Length.....inches 15 18 24 30 36 Price, No. 125....each \$3.50 3.70 4.30 5.00 5.80

No. 126 Towel Bars with Center Support



Length.....inches 24 30 36 48 60 72 Two Bars, Length, each.in. 12 15 18 24 30 36 Price, No. 126....each \$6.00 6.50 7.00 8.00 9.00 10.50

No. 128 China Easy Set Corner



1-inch opal round towel bar with easy set china round posts.

No. 128 for right corner; No. 129 for left corner.

Length inches 15 18 24 30 36

Price each \$3.50 3.70 4.30 5.00 5.80

No. 127 China Easy Set Towel Bars

Square Wood Bar-Square China Posts



A 78-inch square wood towel bar with china easy set square posts.

Length ... inches 18 24 30 36 Price, No. 127 ... each \$4.00 4.70 5.40 6.20

China Easy Set Bathroom Furnishings



With Concealed Screws

To install, fasten concealed beveled slide to wall; fixture then slips down over slide, concealing screws. Fixtures can be removed for cleaning; or a drop of glue on slide will make installation permanent. Sanitary.

No. 133 China Shelves



Loose fitting opal shelf with china brackets having con-cealed screws. Brackets are placed at the end of the shelf keeping it from moving sidewise and prevents articles from falling off the end. The lug on the front of the bracket keeps the shelf from slipping forward and the special locking feature prevents the shelf from lifting at the rear.

Size.....

Price, No. 133, 5 Inches Wide, 5/6
Inch Thick.....each
Price, No. 1338, 5 Inches Wide,
1/6 Inch Thick....each
5.90 6.80 8.10 9.60

No. 137 China Easy Set Bolted Shelves

Opal glass slab 5 inches wide. 56 inch thick. 2-piece bracket. Bolted together.

 Length.
 inches
 12

 Price, No. 137.
 each
 \$2.50

No. 138 China Easy Set Shelf Combinations



China easy set one-piece bracket combination with opal glass shelf, square wood towel bar and 8 tooth brush holders.

Length inches 18 24 30 36 Price, No. 138 each \$7.50 8.50 10.00 11.50

No. 232 China Easy Set Shelf Combinations



Loose locked shelf combination with easy set china brackets and opal glass shelf with 2 tumbler holders.

Shelf, 5 inches wide.

Lengthinc	ches 18	24	30
Price, No. 232	each \$7.3	0 8.30	9.80

No. 234 Easy Set China Shelf Combinations



Loose tocked shelf combination with Easy Set china brackets and glass shelf with one tumbler holder and one soap holder. Shelf 5 inches wide.

Length inches 18 24 30 Price, No. 234 each \$7.70 8.70 10.20

No. 236 China Easy Set Shelf Combinations



Loose locked shelf combination with easy set china brackets and opal glass shelf with 2 soap holders.

Shelf 5 inches wide.

Length.....inches 18 30 Price, No. 236.....each \$8.10 9.10 10.50

No. 140 China Shaving Set Holders



A compact unit for holding Gillette razor set, shaving brush, and for either shaving powder, paste or soap. Flange, 23/4x6 inches. Projection, 51/4 inches. Price, No. 140

.....each \$4.00



No. 159 China Easy Set Tooth Brush and Paste Holders

Holds tooth paste and 6 tooth

Diameter of flange, 25% inches. Projects 3½ inches. Width over all, 3¾ inches.

Price, No. 159.....each \$1.60

No. 158 Easy Set China Tooth Brush Holders



China wall tooth brush holder with easy set method of concealed attachment.

Holds four tooth brushes.

Price, No. 158 each \$1.40

Tumbler and Soap Holders







No. 167



No. 168

Price, No.	156, Tumbler and Tooth Brush Holder.each	\$2.00
" "	167, Soap Holder for Lavatories "	1.90
	168 " with Drain Holes for	
Shower	Stalls each	2.00





No. 171

Price, No. 170, Soap Holder for Bath Tub or Sink	
Price, No. 171, Soap Holder with Drain Holes for Bath	
Tub and Shower Combined each	2.40

Toilet Paper Holders





No. 176

Price, No. 175, Single Post Type, also Used as Individual Towel Rack.....each Price, No. 176, Two Post Type with Spring Roller. " 3.30

Bath Room Hooks



No. 180



No. 181



No. 184



Price, No. 180, for Wash Cloth or Wafer Bag, Flange, 1½-inch Diameter, Projects 15% Incheseach	\$.50
Price, No. 181, for Razor Strop, Flange, 21/4 Inches in	ψ.50
Diameter, Projects 2 Inches each	.60
Price, No. 184, Robe Hook, Flange, 21/4 Inches in Diam-	
eter, Projects 2½ Incheseach	.60
Price, No. 187, Double Robe Hook, Flange 2½ Inches	
in Diameter, Projects 21/4 Incheseach	1.00

No. 225 Hand Rails



Solid opal bar, 1¼ inches in diameter. Round china posts. Base of posts, 3% inches in diameter. Length of Bar . . . inches Price, No. 225 each \$4.30 4.80 5.50

No. 226 Hand Rails



Can be used on any wall surface by fastening with slides in the usual manner or can be also tiled into the wall.

One-piece type made in tile size. 6 inches wide by 3 inches high.

Price, No. 226. each \$2.70

No. 227 China Easy Set Soap Holder and Hand Rail

One-piece construction.

Made in tile size 6 inches wide and 3 inches high.

Projects 3½ inches.

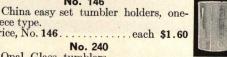
Price, No. 227.....each \$4.00



China Easy Set Tumbler Holders and **Tumblers** No. 146

piece type. Price, No. 146.....each \$1.60

Opal Glass tumblers.



No. 240

Price, No. 240 each \$.50

No. 382 China Razor Strap Hooks With Wall Plug



Can be installed on the face of the tile (by chipping a hole in the tile) or installed flush with the tile.

Size, 2x3 inches.

Projects from wall, 21/4 inches.

Price, No. 382.....each. \$1.50

No. 384 China Single Robe Hooks With Wall Plug

Can be installed on the face of the tile (by chipping a hole in the tile) or installed flush with the tile.

Price, No. 384.....each \$1.50

Size, 2x3 inches. Projects from wall, 3 inches.



No. 387 China Double Robe Hooks

With Wall Plug



Can be installed on the face of the tile (by chipping a hole in the tile) or installed flush with the tile. Size, 2x3 inches.

Projects from wall, 2½ inches.

Price, No. 387....each \$2.00

No. 395 China Tooth **Brush Holders** With Wall Plug

Can be installed on the face of the tile (by chipping a hole in the tile) or installed flush with the tile.

Size, 2x3 inches.

Projects from wall, 3½ inches.

Price, No. 395each \$2.00



No. 990 Vitreous China Pedestal Soap Dishes



Vitreous china octagonal pattern lipped pedestal soap dish to fit in faucet hole on lavatory slab.

Price, No. 990.....each \$3.00

No. 324 Square White Towel Bars With 3x3-inch China Wall Flanges



%-inch white wood bar. Projects from face of wall 4

Length, Center of Posts . . . inches Price, No. 324.....each \$4.30 4.80 5.30 6.00

No. 325 Round White Towel Bars

With 3x3-inch China Wall Flanges



1-inch white wood bar. Projects from wall 4 inches.

Length, Center of Posts . . . inches Price, No. 325 each \$4.30 4.80 5.30 6.00

No. 390 Square White Towel Bars

With 2x3-Inch Plug Type Wall Posts



1/8-inch white wood bar. Projects from wall 23/6 inches.

30 Length, Center of Posts....inches 18 24 Price, No. 390each \$4.30 4.80 5.30 6.00

No. 760 Dececo All White China Lighting Fixtures



No. 760 Dececo All White China Lighting fixture complete with concealed hanger and opal glass shade.

Price, No. 760per pair \$18.00

Unity China Recess Bath Room Accessories No. 333 China Shelves



Loose fitting opal shelf with china brackets. Brackets are placed at the end of the shelf, keeping it from moving sidewise and preventing articles from falling off the end. The lug on the front of the bracket keeps the shelf from slipping forward and the special locking feature prevents the shelf from lifting at the rear. Base of bracket, 3 inches diameter. Projects over all, 51/8 inches.

..inches 18

Price, No. 333, 5 Inches Wide, $\frac{5}{16}$ Inch Thick.....each \$6.40 \$7.10 \$8.00 \$9.30 Price, No. 3338, 5 Inches Wide, $\frac{7}{16}$ Inch Thick.....each 7.20 8.10 9.40 10.90

No. 320 Tooth **Brush Holders**



Size, 6x3 inches. Projects from wall, 1 % inches. Weight

boxed, 13/4 pound. Price, No. 320....each \$2.50

No. 346 Tumbler Holders



Size, 6x3 inches. Projects from wall, 33% inches. Weight boxed, 2 pounds 1 ounce. Price, No. 346...each \$2.50

No. 365 Soap Holders



Size, 6x3 inches. Projects from wall, 3 inches. Weight boxed, 2 pounds 2 ounces. Price, No. 365 ... each \$2.50

No. 366 Soap Holders With Flush Drain



Size, 6x3 inches. Depth over all, 27/8 inches. Weight boxed, 2 pounds 4 ounces. Price, No. 366...each \$2.80

No. 326 Hand Rails



Size, 6x3 inches. Projects from wall, 2 inches. Weight boxed, 1½ pounds.
Price, No. 326...each \$2.20

No. 356 Tumbler and **Tooth Brush Holders**



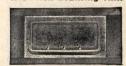
Holds 6 brushes. Size, 6x3 inches. Projects from wall, 31/16 inches. Weight boxed, 2 pounds 4 ounces. Price, No. 356...each \$3.00

No. 381 Razor Strop Hooks



Size, 3x3 inches. Projects from wall, 134 inches. Weight boxed, 10 ounces. Price, No. 381 ... each \$1.50

No. 367 Soap Holders With Non-Draining Rim



Size, 6x3 inches. Depth over all, 2½ inches. Projects from wall, ¼ inch. Weight boxed, 2 pounds 5 ounces Price, No. 367...each \$2.80

Unity China Recess Bath Room Accessories

No. 601 Soap Holders



Size, 6x6 inches. Depth from face of wall, 25% inches. Projects from wall, 2¼ inches. Price, No. 601 . . . each \$6.00

No. 602 Soap Holders



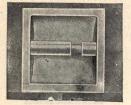
Size, 6x6 incnes. Depth from face of wall, 25% inches. Projects from wall 214 inches. Price, No. 602...each \$6.00

No. 603 Soap Holders



Size, 6x6 inches. Bepth from face of wall 2½ inches. Projects from wall 2½ inches. Price, No. 603...each \$6.50

No. 611 Toilet Paper Holders



Size, 6x6 inches. Recessed into wall 3% inches. Price, No. 611...each \$4.50

No. 615 Tumbler Holders



Size, 6x6 inches. Depth. inside overall 3¼ inches. Recessed into wall 2½ inches. Projects from wall 1½ inches. Price, No. 615 . . . each \$3.50

No. 606 Soap Holders



Size, 6x6 inches. Depth from face of wall, 25% inches. Price, No. 606...each \$3.50

No. 607 Soap Holders



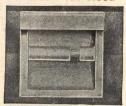
Size, 6x6 inches. Depth from face of wall 25% inches. Projects from wall $\frac{7}{2}$ inch. Price, No. 607...each \$3.50

No. 608 Soap Holders



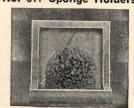
Size, 6x6 inches. Depth from face of wall 25% inches. Projects from wall 1 inch. Price, No. 608... each \$4.00

No. 612 Toilet Paper Holders with Hood



Size, 6x6 inches. Recessed into wall, 3% inches. Hood projects 2¼ inches. Price, No. 612...each \$5.80

No. 617 Sponge Holders



Size, 6x6 inches. Recessed into wall 3\% inches. Projects from wall 2\frac{1}{4} inches. Price, No. 617. each \$5.50

No. 100 Health-O-Meters



The Health-O-Meter is the latest design in this type of scale. It is well constructed, with hardened bearings, rack and pinion, of best quality steel. Equipped with regulating screw for close adjustment. A cork mat is inlaid in the platform. The finish is pure white, of the best oven baked enamel. The figures are prominently shown on the dial, the

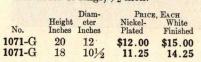
glass being held in place by a double nickel-plated sash.

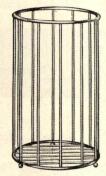
Capacity, 250 to 300 pounds by 1-pound graduations (300 pounds to order); platform, 7x11 inches; height, 8 inches; weight, packed, 27 pounds.

Price, No. 100 each \$16.50

No. 1071-G Towel Baskets

Diameter of bars, $\frac{3}{8}$ inch. Diameter of rings, $\frac{1}{2}$ inch.





No. 15BT Bathroom Stools

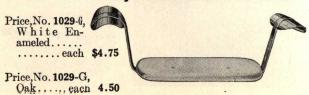


White enameled bathroom stool with cork seat and rubber tips. Height, 15 inches; diameter seat, 14 inches. Price, No. 15BT.....

No. 1128-G Adjustable Bath Tub Seats



No. 1029-G Adjustable Bath Tub Seats

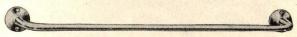


No. 1077-G Bath Room Shelves



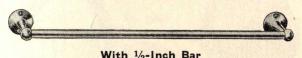
Size of Shelves.. ...in. 5x18 5x24 5x30 Price, Crystal, Nickel-Plated Brackets. ea. \$3.25 \$3.55 \$3.85 Price, Opaline, Nickel-Plated Brackets. ea. 3.55 3.95 4.45 Add for white finished brackets, 90 cents.

No. 1033-G Towel Bars



Lengthin.		18	24	30
Price, 1/2-Inch Bar, Nickel-Plated ea.	\$.90	\$1.00	\$1.20	\$1.45
Price, 5/8-Inch Bar, Nickel-Plated ea.				1.85
Price, 1/2-Inch Bar, White Finished ea.		1.35		
Price, 5/8-Inch Bar, White Finished ea.	1.50	1.65	2.10	2 65

No. 202 Towel Bars



With 72-Inch Bar			
Lengthinches	15	18	20
Price, N. P. Brasseach	\$1.40	1.45	1.50
Length inches	24	30	
Price, N. P. Brasseach	\$1.60	1.75	

With 5%-Inc	h Bar			
Length	nche	15	18	20
Price, N. P. Brass	each	\$1.50	\$1.60	\$1.65
" Crystal Glass Bar	"	1.50	1.60	1.65
Opaline Bar	"	1.70	1.80	1.85
Length				
Price, N. P. Brass	each	\$1.75	\$1.90	\$2.05
" Crystal Glass Bar " Opaline Bar	"	1.75	1.90	2.05
" Onaline Bar	"	2.00	2.20	2.40

opanic Bar	2.00	2.20	2.10
With 1-Inch Bar			
Lengthinches	15	18	20
Price, N. P. Brasseach	\$2.70	\$2.80	\$2.90
" Crystal Glass Bar " Opaline Bar "	2.75	2.90	3.00
" Opaline Bar"	3.10	3.25	3.40
Lengthinches	24	30	36
Price, N. P. Brasseach			
" Crystal Glass Bar "	3.15	3.45	3.75
" Opaline Bar "	3.65	4.05	4.45

No. 1201-G Toilet Paper Holders Lock Roll



Price,	Nickel-plated Brasseach	\$2.75
	Escoloid White Finished Brass	3.50

Bath Room Hooks





Nickel- White Plated Finish Price, No. 1176-G, 334 Inches Higheach \$.70 \$1.00 Price, No. 1179-G, 4½ Inches Higheach 2.75 3.50

No. 1191-G Hook

For razor strop, hot water bag, etc. Price, No. 1191-G, Nickel-Plated, ...ea. \$.25 Price, No. 1191-G, White Finish., ...ea. .35

Tooth Brush Holders

No. 1141-G

No. 1139-G





Price, No. 1141-G Tumbler Holder and Tooth Brush Disc . . each \$1.50 Price, No. 1139-G Spreader, Perforated for Six Brushes with Glass Tumbler..... each \$1.15

Tooth Brush Holders





Price, No. 1138-G with Disc, Perforated for Six Brushes, N. P.ea. \$1.00

Price, No. 1136-G, Perforated for Six Brushes, N. P. ea. \$.65

Tumbler Holders No. 1146-G

Price, Nickel-plated Brasseach \$1.20

Price, Escoloid White Finished Brass.....each 1.60



No. 1236-G Spray Holders



No. 1114-G Soap Holders



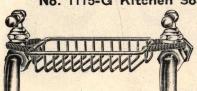
Size 2¾x4¾ inches. Price, N. P...each \$1.80 Price, White Finish.....each 2.25 Size 3½x5 inches.
Price, N. P. . each
Price, White Finish.....each 2.75

No. 1101-G Sponge and Soap Holders

Made of solid brass for rim of tub.

Price, No. 1101-G Nickel-Plated each \$3.00 Price, No. 1101-G White Finish..... each 4.00

No. 1115-G Kitchen Soap Holders



Price, 31/4x51/2 inches, Nickelplated ea. \$1.50

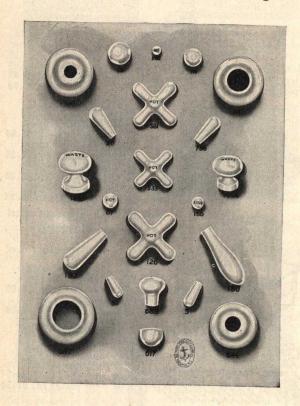
No. 5026-1 Bathroom Chairs



White enamel finish bathroom chair. Size of seat, 151/4x151/2 inches. Height of back, 18 inches. Weight, 11 pounds.

Price, No. 5026-1each \$6.00

Vitreous China Fixture Trimmings



Prices upon application.

Watrous Liquid Soap Holders



Price, No. M-802 each \$3.00

soap needed and no more. The container may be easily refilled without removing from the bracket.

Fastens to wall or back of lavatory. A slight pressure of the hand upon a plunger underneath delivers into the hand just the quantity of



No. M-803



No. M-801

Fastens directly to wall or other support by means of a flexible wire. Fills through opening in top, having a hinged cover. All threaded joints and cement eliminated. Price, No. M-803.ea. \$3.40

Soap is delivered by pressing the push button at the top. A slight movement delivers a fixed quantity into the hand without drip or waste. Fills through the top by removing push button cap. Price, No. M-801.ea. \$5.00

No. C-866 Watrous Liquid Soap Valves



For attaching to top of lavatory.

This valve operates in an upright vertical position, being provided with shank to fit 1¼-inch faucet hole in lavatory top.

Shank is fitted with a 3/8-inch iron pipe coupling nipple and nut. Made of brass heavily nickel-plated.

When installed in the hole drilled for pop-up drain a chain stay can be furnished in the base of the soap valve at additional charge.

No. C-901 Watrous Liquid Soap Tanks



Made in two sizes: 3 and 5gallon capacity.

Has gauge which drops when tank is 3/4 empty.

Made of black iron with welded seams and aluminum finish.

Suited to factory use.

Tapped 3/8-inch iron pipe.

Price, No. C-901, 3-gallon Price, No. C-902, 5-gallon ...each \$7 32each 8.44

Baker Vitreous China Escutcheons



No. 100

Sizes, Iron Pipe.....inches Price....



No. 200

Sizes, O. D. Tubinginches

 Sizes, O. D. Tubing
 inches
 1½
 1¾
 1¾

 Price
 per dozen
 \$3.60
 3.60

 4.08

Nickel-plated Brass Escutcheons

No. 9280



Diam. In.	Iron Pipe Size Inches	Price per 100	Diam. In.	Tubing Size Inches	Price per 100
$\frac{2^{1/2}}{3}$	1/8 to 11/4 3/8 " 11/2	\$5.00 6.00	2½ 3	1/2 to 11/4	\$5.00
33/4	11/2 " 2	7.00	33/4	11/2 " 2	6.00 7.00
No. 13	006 Sure	Grip W	rought	Brass FI	anges

Price Tubing Inches Diameter per Dozen 11/4 11/2 11/2 3 \$1.50

No. 977 Slip Joint Waste Pipe **Flanges**

	Iron Pipe Thread Inches	For O. D. Tubing Inches	Price Nickel- plated Each	Iron Pipe Thread Inches	For O. D. Tubing Inches	Price Nickel- plated Each
)	1 11/4	1½ 1¼	\$1.00 1.00	1½ 1½ 1½	13/8 11/2	\$1.50 1.50
	11/4	13/8	1.00	William Bridge	TOTAL STREET	

Plumbers' Seamless Brass Tubing

Nickel-Plated

		No. 342	200		
Size Inches	Actual Outside Diam. Inches	Actual Inside Diam. Inches	Weight Pounds per Lineal Foot	Threads per Inch	Length of Thread Inches
5/8 3/4	.654 .768	. 521 . 631	. 46 . 56	20 20	5/8 5/8
1/8	.875 1.000	.728	.67	18 18	5/8 5/8
$\frac{11/4}{11/2}$	1.245 1.508	1.060 1.311	1.27 1.55	18 18	5/8/8 5/8/8/8/8/8/8/8/8/8/8/8/8/8/8/8/8/
1 ³ / ₄ 2	$1.756 \\ 2.007$	$1.564 \\ 1.815$	$\frac{1.82}{2.10}$	18 16	5/8 5/8

Prices will be quoted upon application.

Rubber Furnace Bulbs



PER DOZEN
Tubes Bulbs \$6.00 \$1.20

Blunt Edge Syphon Valve Washers

	140. 1007	*> 10 V	
Size Inches	Price per Doz.	Size Inches	Price per Doz.
11/8	\$2.35	13/4	\$3.50
11/4	2.65	2	3.90
11/2	3.15		

High grade soft flexible stock. Carefully packed.

No. 8630 Beveled Syphon Rings



Size Inches	Price per Dozen	Size Inches	Price per Dozen
1	\$1.40	13/4	\$2.60
11/4	1.50	2	3.00
11/2	2.00		

Packed 25 in box.

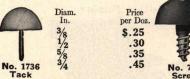
Size Inches $\frac{1\frac{1}{4}}{1\frac{1}{2}}$

No. 832 Closet Spud Washers

Price	Size	Price
per Dozen	Inches	Dozen
\$2.50	2	\$3.50
3.00	A STATE OF SHIP	



Rubber Tack and Screw Bumpers



Price per Doz. Diam. \$1.30 7/8 1.50 1 1.60 No. 734 Screw

No. 342 Recess Closet Seat Bumpers



No. 1801 Seat Rubbers No. 461 Bar Bumpers





Cone Shaped

No. 20

Made in white or red rubber. Packed 1 dozen to the box.

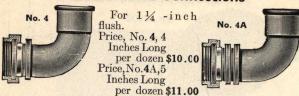
 Size
 ...
 in.
 2
 2½
 2½

 Price
 .per doz.
 \$6.00
 6.50
 7.00

 Size
 ...
 in.
 25%
 2¾
 3

 Price
 .per doz.
 \$8.10
 9.20
 10.80

Rubber Closet Connections



No. 8590 Rubber Straight Closet Connections

Size Inches	Price per Doz.	Size Inches	Price per Doz.
11/4	\$7.00	2	\$14.00
11/2	9.00		



Cone Washers

No. 200



For	High	Stem	Caps
	10 mm		

Size	Price	Size	Price
Inches	per 100	Inches	per 100
3/8	\$2.65	3/4	\$3.80
1/2	3.00	1	4.70
3/8 1/2 5/8	3.35		

No. 240 Top Washers

For Compression Work



Price, \(\frac{3}{8} \)-inch Hole, \(\frac{19}{32} \)-inch Base, and \(\frac{13}{32} \) Inch High
Price, \(\frac{1}{2} \)-inch Hole, \(\frac{19}{16} \)-inch Base, and \(\frac{1}{4} \) Inch High
Price, \(\frac{1}{2} \)-inch Hole, \(\frac{10}{16} \)-inch Base, and \(\frac{1}{4} \) Inch High
Per hundred

2.00

No. 228 Jenkins Faucet Washers

Composition Rubber



Prepared to fulfill the severe conditions of hot and cold water service. Ordinarily supplied in the medium hard grade. Made also of extra hard composition for use in hospitals, hotels or wherever hot or high pressures may be encountered. Made in sizes 38, 1/2, 5/8 and 1 inch. Special sizes can be made to order. Packed in boxes of 100 each.

Price, No. 228per 100 \$2.75

No. 8356 Beveled Waste and Overflow Washers

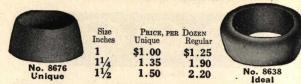


Price.....per dozen \$1.20

Rubber Slip Joint Washers

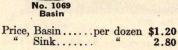
		Pla	ain		
Plain	Size Inches	Price per 100	Size Inches	Price	Beveled
	3/8	\$.75	11/4	per 100 \$1.30	
	1/2	.80	11/2	1.65	
	3/4	.95	2	2.55	
No. 3501	1	1.15 Bevele	4		No 551
Price, 3/8-inch I. D.		Develo			00 100 en en
		4.40		b	Der 100 \$2.80

Basin Waste Washers



Basin and Sink Gaskets







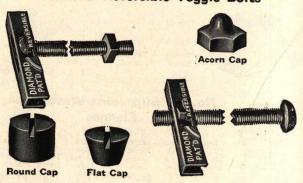
No. 8591 Sink

No. 4213 Rubber Stoppers

Size In.	Price per Dozen \$1.44	Size In. 11/8 11/4	Price per Dozen \$1.56 1.80	Size In. 2 2 ¹ / ₂	Price per Dozen \$3.24 4.20
1	1.44	11/2	2.28	3	5.40

Special Rubber Stoppers

Diamond Reversible Toggle Bolts



For making attachments to hollow brick, tile or lathe walls. Heads are removable and can be placed at either end of stove bolt. Loose heads furnished with threaded rods.

A Section	PRICE. 1	PER 100	
With Round			Brass
Head Stove			Toggle Brass
Bolts	Brass	plated	Bolts
\$9.00	\$10.00	\$12.00	\$22.00
9.40	10.40		22.60
10.00	10.80		23.10
10.40	11.60		24.20
11.40	12.40		25.30
12.20	13.20	15.60	24.40
13.00	14.00	16.40	25.20
13.80	14.80	17.20	26.00
15.80	16.80	19.20	27.60
17.00	19.20	21.60	29.20
13.20	21.20	24.40	40.00
14.80	22.80	26.00	50.00
16.80	24.80	28.00	60.00
18.00	27.20	30.40	70.00
	or Flat Head Stove Bolts \$9.00 9.40 10.00 10.40 11.40 12.20 13.00 13.80 15.80 17.00 14.80 16.80	With Round or Flat Head Stove Bolts \$9.00 \$10.00 9.40 10.40 11.60 11.40 12.20 13.00 14.80 15.80 16.80 17.00 19.20 13.20 13.20 21.20 13.20 14.80 15.80 16.80 22.80 16.80 24.80	or Flat Head Stove Bolts \$9.00

No. 3880 Plain Brass Fuller Handles



Price, No. 3880, Finished or Nickel-Plated.....each \$.40
No. 3885 Indexed China Fuller Handles



Price, No. 3885, Finished or Nickel-plated ...per doz. \$13.80

No. 105 Fuller Adjustable Stems





Size of Bibb inches Price, Plain each	1/2	3/4 \$.35
" Nickel-plated, for Basin and Bath	Ψ.20	φ.υυ
Cockseach	.35	



Bibb Washers, Discs and Fuller Balls

			(1
Ribb Washer Ru	303, Solbber D	isc	,	No. 107 uller B	
			-		
Sizeinches	3/8	1/2	5/8	3/4	1
Size inches Price, Hard or Soft.per 100	\$1.30	1.30	1.30	1.50	2.00
" Jenkins Hard or	700				2.00
	1 50	1 50	1 50	1 50	1 50
Softper 100			1.50	1.50	1.50
Price, Red Fibre "	.60	.60	.60	.60	1.00
" Leather "	.50	.50	.50	.50	.80
Solid					
Ci	2/	1/	E/	91	
SizeInches	%	1/2	1/8	%4	1
Size inches Price per 100	\$1.40	1.50	1.60	1.70	1.80
Fu	ller B	alls			
Sizeir	nches	1/6	5/6	3/	1
Size ir Price, Soft pe	r 100	\$2 00	2 00	2 90	5.00
" II	"	4.00	4.00	= 00	
Пяго	VENCY STATEMENT	4 (11)	4 (10)	5 X()	10 00

No. 5525 Union Washers



Compression Brass Handles

Finished or Nickel-plated



Compression Brass Wheel Handle No. 3892

No. 1033



Compression Brass Tee Handle No. 3890



Compression Brass Cross Handle No. 3894

 Size......inches
 3/8
 1/2
 5/8
 1

 Price, Wheel Handle.....er doz.
 \$4.80
 \$5.40
 \$6.60
 \$27.00

 " Tee Handle.....
 2.40
 2.40
 3.00
 6.00

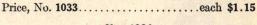
Cross Handle

Price...... per dozen \$5.40

China Lever Handles

No. 1033

No. 1033 is for all side handle lavatory and bath faucets.



No. 1034

No. 1034 is for sink faucet top handle lavatory faucet and front handle bath faucet.

Price, No. 1034.....each \$1.15

No. 1035

For sink fixtures and top handle bath faucets.

Price, No. 1035.....each \$1.15

No. 1036 Brass Lever Handles



For finished and nickel-plated faucets.

Price, No. 1036, Fin. or N. P. each \$.40

No. 1038 Brass Tee Handles

CE (20)

For finished and nickel-plated faucets.

 Faucet Inches
 Price, Each Fin. or N. P.
 Faucet Inches
 Price, Each Fin. or N. P.

 1/2
 \$.20
 3/4
 \$.25

Compression Cross Handles

Indexed

Нот

Four-arm China Index



Solid China Indexed No. 3898

Size	Small	Large
Price, Four-arm Nickel-platedeach	\$.95	\$1.25
" Solid China"	1.45	1.95

Compression Stops



For Iron Pipe With Stuffing Box

Tee Handle



		CONTROL OF THE PARTY OF THE PAR	
	2452	C4	
NO.	3433.	Straight	

	No. 3452, Angle
PRICE, EACH -	N. P.
	N. P.
\$1.70	\$2.00
2.65	2.35
2.55	2.85
3.25	3.60
5.90	6.40
	Finished \$1.70 2.65 2.55 3.25

No. 185E6 Compression Stop and Drains With Stuffing Box



Side cap waste control compression stop with waste. Bonnet with asbestos ring packing. Encased seat

Furnished with 1 waste control and packed 3 right and 3 left in a carton.

Size In.	Price Each	Size In.	Price Each
1/2 5/8	\$2.45	3/4	\$3.65
%	2.95	1	6.40

No. 175E2 Haysco Compression Reversible Stop and Drains



Size In.	Price Rough Each	Size In.	Price Rough Each
1/2 5/6	\$2.70	3/4	\$3.90
5/0	3.20		7.00

Compression Urinal Faucets

For Iron Pipe

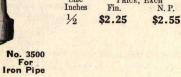
PRICE EACH in. N. P.



Size Inches 1/2 Size Inches

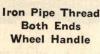
\$2.25 \$2.55 S. O. T. PRICE, EACH N. P.

Fin.





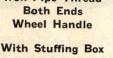
Compression Lavatory Stops

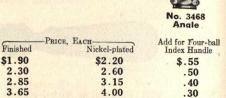




Size Inches

3/8 1/2 5/8 3/4





.40

.30

3.15

4.00

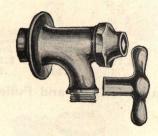
Compression Lavatory Stops Iron Pipe Thread **Both Ends** Loose Key

No. 3476 Straight

		THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM	
Size		PRICE, EACH-	
Inches	Finished	Taron, Daon	Nickel-plated
3/8	\$2.10		\$2.40
3/8 1/2 5/8 3/4	2.50		2.80
5/8	3.05		3.35
3/4	3.85		4.20

With Stuffing Box

No. 2516 Angle Pattern Lawn Faucets



Size Price.	Rough Nickel-platedeach	1/2-3/4
	Finished each	2.80
"	Nickel-platedeach	3.15

Miami Anti-freeze Lawn Faucets



A new and inexpensive design for outside hose connection. can be used in the winter time and does not require a stop and waste. Seat can be renewed from the outside. Valve closes and drains outside, preventing wetting of cellar floor. Furnished with tight and loose key.

Sizeinches	1/2	3/4
Price, with 9 inch Connecting Pipeeach	\$3.50	\$3.75
Price, with 12-Inch Connecting Pipeeach	3.75	4.00
Price, with 18-Inch Connecting Pipeeach	4.75	5.00
Price, with 24-Inch Connecting Pipeeach	5.00	5.25

No. 3000 Compression Plain Faucets For Iron Pipe



Sizeinches Price, Rougheach	3/8	1/2	3/4	1	11/4
Price, Rough each	\$1.40	\$1.45	\$1.90	\$4.50	\$8.90
" Fin	1.55	1.65	2.10	5.00	9.50
" Nickel-plated . "					
Add for S. Box		.40	.45	.90	1.55
" " China Indexed Handles each		.75	.70		Resident

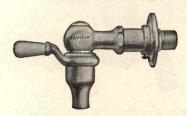
No. 3001 Compression Hose Faucets For Iron Pipe



Sizeinches	1/2	3/4	1	11/4
Price, Rough each	\$1.70	\$2.15	\$5.10	\$9.80
" Finished "				
" Nickel-plated "	2.20	2.65	6.10	11.30
Add for Stuffing Box "	.40	.45	.90	1.55
" " China Ind Hdles. "	. 75	70		

No. J-8 Sanitap Bibbs

With Set Screw Flange



Size	CHINA]		EACH — BRASS H	IANDLES—
Inches	Fin.	N. P.	Fin.	N. P.
1/ ₂ 5/ ₈	\$4.60 5.15	\$4.90 5.45	\$4.35 4.90	\$4.65 5.20

No. 72 Quick Compression Factory Wash Sink Faucets

Quick compression factory wash sink double faucet with removable spray spout, brass lever handles and male union couplings for ½-inch iron pipe.

Body rough brass, plated all over.

The supply inlets are arranged for cold water above and hot water below.



Price,	No.	72.	with	Spray	Spout.	 	 	 	.each	\$7.50	,
Price										6 50	

COLD

Quick Compression Faucets

No. 3101 China Handle for Iron Pipe

	Plain Bibbs		
Sizo	inches	1/6	3/4
Price.	Finished each	\$2.30	\$2.75
"	Nickel-plated each	2.60	3.05
	Hose Bibbs		
Size	inches	1/2	3/4
Price,	Finished each	\$2.55	\$3.00
"	Nickel-plated each	2.85	3.30

No. 3109
Quick Compression
Faucets

With Solid Female Flange and China Handle



Size				inches	16	3/
Price.	Plain	Bibbs.	Finished	anch	¢9 en	¢2 25
"	"	"	Nickel-plated	"	3 10	3 65
"	Hose		Finished	"	3 05	3.60
"	"	"	Nickel-plated	" "		3.90
If w	rith B	rass Ha	ndles, deduct	" "	50	CONTROL OF THE PARTY OF THE PAR

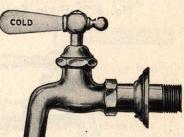
No. 3121 Quick Compression Faucets With Adjustable Extension Flange, for Iron Pipe



O.			-PRICE, EACH-		
Size In.	Fin.	NA HANDLES		SS HANDLYS	Add for
3 1000	The second second	N. P.	Fin.	N. P.	Hose End
1/2	\$3.35	\$3.65	\$2.85	\$3.85	\$.25
1/2 3/4	4.05	4.35	3.55	3.15	.25

Quick Compression Faucets

No. 3117 China Handle S. O. T. Set Screw Flange



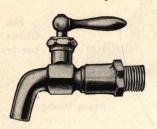
4.20

	Plain Bibbs		
Size.	inches	1/2	3/4
Price.	Finished each	\$3.10	\$3.65
"	Nickel-plated "	3.40	3.95
	Hose Bibbs		
Size	inches	1/2	3/4
Price.	Finished each	\$3.35	\$3.90

Nickel-plated "

No. 3200 Fuller Plain Faucets

For Iron Pipe



Size	·····inches	1/2	3/4
Price,	Finished inches each	\$1.95	\$2.30
	Nickel-plated	2.35	2.70

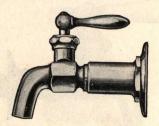
No. 3201 Fuller Hose Faucets

For Iron Pipe



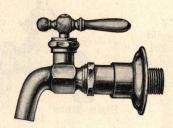
Size		1/2	3/4
Price.	Finishedeacl Nickel-plated		\$2.60

No. 3206 Fuller Plain Faucets With Solid Female Flange



Sizeinc	hes	1/2	3/4
Size inc Price, No. 3206 Finished e	ach	\$2.45	\$2.90
" 3206 Nickel-plated	"	2.85	3.30
Add for Male Flange	"	.15	.15
" " Hose End	"	.30	.30

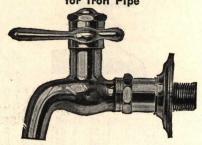
No. 3226 Plain Fuller Faucets With Extension Flange



Size	**************************************	inches	1/2	3/4
Price. No.	3226 Finished	anch	\$3 UE	\$2 CE
Add for	3226 Nickel-plated	. "	3.45	4.05

No. C-7900 Fulcrum Handle Self-closing Faucets

Adjustable Screw Flange, Detachable Shank for Iron Pipe



Size	inches	1/2	3/4
Price, No. 7900, Nickel-plated.	each	\$4 35	4 66

Doherty Self-closing Faucets

With Extension Flange



Sizeii	nches ½	3/4
Price, Finished	each \$4.00	\$4.80

Auto Radiator Filling Faucets



Nickel on rough self-closing Auto Radiator Filling Faucet with fulcrum handle and ¾-inch female hose thread to fit water hose.

This faucet is shaped to fit the hand. It is a convenient water saver and prevents spilling water on the auto hood. Also used for washing automobiles and windows.

Self-Closing Stops for Iron Pipe



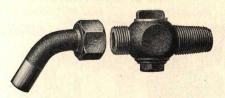




No. 3492 Doherty

Size		inch	es	3/6	1/0	5/6	3/	
Price,	Boston,	Finishedea	ch	\$2.45	\$2.55	\$3.10	\$3.95	
"	"	Nickel-Plated	"			3.60		
"	Doherty	Finished	"			3.50		
"		Nickel-Plated	"	3.35	3.45	4.00	5.00	

No. 4070 Corporation Stops With Straight or Bent Coupling



Size Inches	As Shown	With Hexagon on Main End	Size	Price Each As
1/2 5/8	\$1.60	\$1.75	Inches 11/4	\$10.00
3/8	2.25 2.85	2.50 3.20	11/2	16.00 26.50
1	4.50	5.00		94

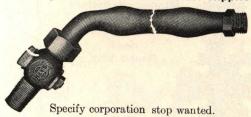
No. 4071 Corporation Stops

Screw Plug, without Coupling



	TRICE	, EACH		
		With Hexagon		Price Each
Size	As	on	Size	as
Inches	Shown	Main End	Inches	Shown
1/2	\$1.45	\$1.60	11/4	\$9.25
1/2 5/8	1.95	2.20	11/2	15.00
3/4	2.50	2.85	2	25.00
1	4.00	4.50		

No. 119E1 Lead Goose Necks With Wiped Joint Ends and Solder Nipples



Size In.	Lgth. L. P. In.	With	EACH Without Corp. Stop	Size In.	Lgth. L. P. In.	PRICE, With Corp. Stop	EACH Without Corp. Stop
3/8	18	\$4.50	\$3.90	1	18	\$10.75	\$9.20
3/8 1/2 5/8 3/4	18	5.25	4.60	11/4	24	19.50	16.20
5/8	18	6.25	5.40	11/2	30	31.00	25.50
3/4	18	7.25	6.25	2	36	48.50	38.50

Lead Flange Union Couplings

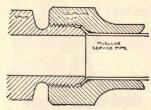
No. 4086, Lead to Lead No. 4085, Lead to Iron





Size	Price	Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each	In.	Each
1/2	\$.85	11/4	\$3.80	1/2	\$1.75	11/4	\$7.50
5/8 3/4	1.30	11/2	5.00	5/8	2.50	11/2	9.25
3/4	1.50	2	7.50	3/4	2.95	2	14.25
1	2.00			1	3.90		

Mueller Service Pipe



Made of pure copper, fabricated, tempered and carefully treated to meet the exacting requirements of service pipe installations, this pipe is flexible and elastic enough to withstand changing soil or construction conditions.

Mueller Service Pipe has a minimum tensile strength of

30000 pounds per square inch and a minimum elongation of 25 per cent in 4 inches.

An easy pipe to install. A perfect joint can be made with the following tools: Hack saw, knife or reamer, Mueller flanging tool and a hammer.

The illustration shows the use of the coupling nut and spud in forming a joint with Mueller Service Pipe. Both nut and spud present convex surfaces on the flanged portion of the pipe, forming a line contact and making a perfect joint which

will withstand terrific lateral pulling.
Furnished in lengths of 16, 18 and 20 feet. Sizes which are to be recommended as substitutes for iron pipe size pipe from 1/2 to 2-inch inclusive are as follows:

I.P. Size In.	O. D. In.	Gauge B.G.W.	Test Pressure Pounds	I.P. Size In.	O. D. In.	Gauge B.G.W.	Test Pressure Pounds
$\frac{1}{2}$ $\frac{3}{4}$	5/8	18	1140	11/4	13/8	16	630
3/4	7/8	16	1040	11/2	15/8	15	580
1	11/8	16	780	2	21/6	14	520
Pri	ces and	special	bulletin u	ipon requ	est.		

Mueller Service Pipe Fittings

These fittings are made of high grade copper content red brass, with just enough of the harder metals mixed with copper so that it can be machined. All are tested under an actual hydraulic pressure of 200 pounds.

No. G-15000 Corporation Stops

Inlet: Mueller thread. Outlet: Mueller service pipe same size as corporation stop except 5/8-inch size which is for ³4-inch. Sizes: ¹/₂, ⁵/₈, ³/₄, 1, 1¹/₄, 1¹/₂ and 2-inch.

Inside thread screw plug is required.

No. G-15025 Corporation Stops
Inlet: Iron pipe thread. Outlet: Mueller service pipe same size as corporation stop. Sizes: ½, ¾, 1, 1¼, 1½ and 2-inch. Inside thread screw plug required.

No. G-15450 Couplings



Copper pipe to iron pipe, inside thread. Can be used on outlet of any corporation stop having iron pipe thread outlet, same size as corporation stop. Sizes: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{1}$, $\frac{1}{4}$, $\frac{1}{2}$ and 2-inch. No. G-15425 Couplings

Copper pipe to iron pipe, outside thread. Size denotes

service pipe size, also iron pipe size. Sizes: ½, ¾, 1, 1¼, 1½ and 2-inch. Prices upon application.

Mueller Copper Service Pipe Tools

No. G-18025 Copper Hammer

Price, No. G-18025 ... each



	No. G-
FUSCASE	Size Price Size

No. G-18000 F	langii	ng lo	Ol
Sizein.	1/2	3/4	1
Price ea. Size in.	11/4	11/2	2
Price ea			

Screw Plugs for Mueller Tapping Machine

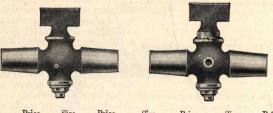
Furnished for Nos. A, B, 1 and 2 machines.

No.	Size Inches	Price Each	No.	Size Inches	Price Each
62551	1/2	14.1.19	63146	11/4	
62553	3/4		62981	11/2	
62554	1		62980	2	2



Tee Handle Flat Way Stops

Ground Key—For Lead Pipe
No. 3966 Stop
No. 3967 Stop and Drain



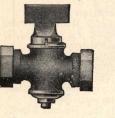
Size	Price	Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each	In.	Each
1/2 5/8 3/4	\$1.95	11/4	\$8.35	1/2 5/8	\$2.00	11/4	\$8.50
5/8	2.75	11/2	13.95	5/8	2.80	11/2	14.20
3/4	3.40	2	24.00	3/4	3.45	2	24.50
1	5.00			1	5.10		

Tee Handle Round Way Stops Ground Key—For Lead Pipe



Stops and Stop and Drains

Tee Handle—Round Way—For Iron Pipe No. 3982 Stop No. 3983 Stop and Drain



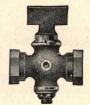


In.	Each	In.	Price Each	Size In.	Price Each	In.	Price Each
1/2 5/8 3/4	\$2.20	11/4	\$10.05	1/2	\$2.25	11/4	\$10.20
5/8	3.00	11/2	16.45	5/8	3.05	11/2	16.70
3/4	3.85	2	28.50	3/4	3.90	2	29.00
1	6.15			1	6.25		

Stops and Stop and Drains

Tee Handle—Flat Way—For Iron Pipe No. 3954 Stop No. 3955 Stop and Drain





Size In.	Price Each	Size In.	Price Each	Size In.	Price Each	Size In.	Price Each
3/8	\$1.70	1	\$4.40	3/8 1/2	\$1.75	1	\$4.50
3/8 1/2 5/8 3/4	1.75 2.45	$\frac{11/4}{11/2}$	7.45 12.45	1/2 5/8	1.80 2.50	11/4	7.60
3/4	3.00	2	21.50	3/4	3.05	11/2	12.70 22.00

Patent Guard Round Way Stops

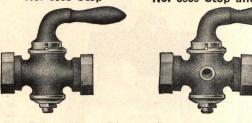
Ground Key for Iron Pipe Tee or Lever Handle

No. 4049 Stop No. 4050 Stop and Drain

Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
1/2 5/8 3/4	\$2.20	11/4 11/2	\$10.05 16.45	1/2 5/8	\$2.25 3.05	$\frac{11/4}{11/2}$	\$10.20 16.70
3/4	3.85	2	28.50	3/4	3.90	2	20.60

Stops and Stop and Drains

Lever Handle—Round Way—For Iron Pipe No. 3988 Stop No. 3989 Stop and Drain



Size In.	Price Each	Size In.	Price Each	Size In.	Price Each	Size In.	Price Each
1/2 5/8 3/4	\$2.20	11/4	\$10.05	1/2	\$2.25	11/4	\$10.20
5/8	3.00	11/2	16.45	5/8	3.05	11/2	16.70
3/4	3.85	2	28.50	3/4	3.90	2	29.00
1	6.15			1	6.25		

Inverted Key Curb Stops



Minneapolis Pattern for Iron Pipe Tee or Socket Head Round Way



No. 4062 Stop and Drain

Inverted Key Curb Stops



No. 4055 Stop Regular Pattern For Iron Pipe Tee or Socket Head, Round Way



No. 4056 Stop and Drain

Size...in. ½ 5% 3¼ 1 1¼ 1½ 2
Stop.each \$2.95 \$3.80 \$4.90 \$7.40 \$12.05 \$19.45 \$33.00

Brain...each 3.00 3.85 4.95 7.50 12.20 19.70 33.50

No. 10fE1 Ground Key Plain Faucets For Iron Pipe



Size	F	RICE, EACH		Size	PRICE, EACH		
In.	Rough	Fin.	N. P.	In.	Rough	Fin.	N. P.
1/4	\$1.65	\$2.05	\$2.45	1	\$4.40	\$5.40	\$6.40
3/8	1.70	2.10	2.50	11/4	7.45	8.95	10.45
1/4 3/8 1/2 5/8 3/4	1.75	2.15	2.55	11/2	12.45	14.95	17.45
5/8	2.45	2.95	3.45	2	21.50	25.00	28.50
3/4	3.00	3.75	4.50				

No. 101E2 Ground Key Hose Faucets For Iron Pipe



Size	I	PRICE, EAC	H	Size	1	PRICE, EACH Fin.	
In.	Rough	Fin.	N.P.	In.	Rough	Fin.	N.P.
1/2	\$2.00	\$2.40	\$2.80	11/4	\$8.35	\$9.85	\$11.35
1/ ₂ 5/ ₈ 3/ ₄	2.70	3.20	3.70	11/2	13.70	16.20	18.70
3/4	3.25	4.00	4.75	2	23.35	26.85	30.35
1	5.00	6.00	7.00				

McDonald Oil Faucets

For Steel Oil Barrels and Drums

McDonald Oil Faucets are made from a good grade of **Brass**, carefully machined and perfectly ground. They are made for use with gasoline or other liquid petroleum products; fitted to withstand the action of such oils without leakage. All are **Guaranteed** unreservedly.

Lock Lever Plain Oil Faucets for Iron Pipe



 Plate E11001

 Size.....inches
 1/2
 5/8 x 3/4
 3/4
 1
 11/4
 11/2

 Price, Rough..ea.
 \$1.75
 2.45
 3.00
 4.40
 7.45
 12.45

Lock Lever Hose Oil Faucets for Iron Pipe



Size.....inches 1/2 5/8 x 3/4 3/4 1 11/4 11/2 Price, Rough. ea. \$2.00 2.70 3.25 5.00 8.35 13.70

Mbelcen Aisi

Mueller Brass Ferrules Straight, Long Pattern

	No.	8800, H.S.	No. 881	10, H.X.
Size	Lgth.	Price	Lgth.	Price
In.	In.	Each	In.	Each
2	41/2	\$.90	41/8	\$1.10
3	. 43/4	1.50	41/4	1.85
4	5	1.85	45/8	2.30

Mueller Brass Ferrules

Long Offset, Reducing Pattern

	No. 13	73, H. S.	No. 13	75, H. X.
Size In.	Lgth. In.	Price Eag	Lgth. In.	Price Each
2x11/4	43/8	1.10	51/8	\$1.30
2x1½	41/4	1.10	5	1.30

No. 4273 Straight Brass Ferrules

Made of red or yellow brass. Specify which is desired when ordering. Diameter Length Inches Weight Price Each Inches Ounces 11/2x2 12 4 \$.95 4 15 .95 3 23 1.50 30 2.00

No. 4283 Brass Trap Screw Ferrules

	FOR STAN	PRICE, PI	FOR EX. I	HEAVY PIPE	
Size In.	Std. Wt.	Heavy Wt.	Std. Wt.	Heavy Wt.	
2	\$14.40	\$16.20	\$16.80	\$18.60	
3	24.00	26.40	28.20	30.60	
4	31.20	34.80	36.00	40.20	
5		147.00		156.00	
6		168.00		177.00	

No. K-1552 Blake Extra Heavy Iron Cleanouts

For Extra Heavy Pipe Only
With Full 3½-Inch Opening Extra Heavy
Iron Pipe Size Brass Plug

The body and cover are made extra heavy and opening is large enough to permit test plugs to be inserted.



With Raised Head

 Size
 inches
 2
 3
 4
 5
 6

 Price, No. K-1552
 each
 65
 .95
 1.20
 2.25
 3.20

 With Countersunk Head

 Size
 inches
 2
 3
 4
 5
 6

 Price, No. K-1552
 each
 3.75
 1.05
 1.35
 2.50
 3.50

Blake Standard Iron Body Cleanouts

Heavy Brass Screw Cover with Square Head

Taper Screw Plug Cover Flanged Screw Cover





	Body	Cover	Price		Body	Cover	Price
No.	In.	In.	Each	No.	In.	In.	Each
K-1574	2	11/2	\$.40	K-1574	2	11/2	\$.45
K-1574	3	21/2	.65	K-1574	3	21/2	.70
K-1574	. 4	3	.70	K-1574	4	3	.80
K-1574	5	31/2	1.55	K-1574	5	31/2	1.80
K-1574	6	4	2.10	K-1574	6	4	2.40
K-1574	8	4	3.40	K-1574	8	4	3.80

No. 1111 Iron Drive Ferrules



No.	Size Inches	Depth Inches	Price Each
1111A	4	11/2	\$.20
1111B	4	21/	.20
1111C	.4	31/2	.25

No. G10026 Mueller Soldering Nipples







On Reels

Size Inches	Price Each	Size Inches	Price Each	Common of the Co
3/8	\$.30	11/2	\$1.25	
1/2	.35	2	1.75	
3/4	.50	21/2	3.00	
1	.70	3	4.00	
11/4	90	4	7 00	

Price		
Each	Whiteh .	#
\$1.25		
1.75		10
3.00		
4.00		
7.00		

No. G10027 Mueller Soldering Nipples

Price	Size	Price
Each	In.	Each
\$.30	11/4	\$.90
.30	11/2	1.25
.30	2	1.75
.35	21/2	3.00
.50	3	4.00
.70	4	7.00
	Each \$.30 .30 .30 .35 .50	Each In. \$.30 11/4 .30 11/2 .30 2 .35 21/2 .50 3



Soldering Ur	nions
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S12e	-PRICE, PER	DOZEN-
In.	Straight, No. 4250	Bent, No. 4251
3/8 1/2 3/4	\$4.80	\$7.20
1/2	6.00	8.40
3/4	7.80	9.60
1	10.20	12.00
11/4	13.20	16.20
11/2	15.00	22.80
2	21.00	30.00



No. 573 Flush Bushings



I. P.	O. D.	
Thread	Tube	Price
nches	Inches	Each
11/4	11/4	\$.17
11/4	13/8	.15
11/2	11/4	.27
11/2	13%	.27 .25
11/2	11/2	.20
11/2	15%	.17

No. 297 Brass Solder Bushings With Female Iron Pipe Thread

					· · · · ·	
I. P.	0. D.		I. P.	0. D.		
Thread	Tubing	Price	Thread	Tubing	Price	
Inches	Inches	Each	Inches	Inches	Each	
11/4	11/4	\$.48	11/2	15/8	\$.64	
11/4	13/8	.48	2	11/2	1.50	
11/2	11/4	.72	2	15/8	1.50	
11/2	13/8	.72	2	2	1.40	
11/2	11/2	.64				



Brass Vent Tees With Slip Joint Nuts and Washers Iron Pipe Vent-Lead Pipe Waste

7400.07	Section and the second	P			· Pc	- 4566
T . T . 1 CU		REGULAR		Long		
Iron	Lead	Slip	PATTERN		PATTERN	
Pipe	Pipe	Joint		Price		Price
In.	In.	In.	No.	Each	No.	Each
11/4	11/4	11/4	900	\$.90	901	\$1.04
11/2	11/2	11/4	906	1.07	907	1.20
11/2	11/2	11/2	912	1.11	913	1.26

	Aqued	luct
WEIGHT-	Length	Inside

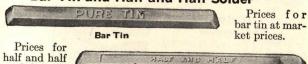
Lead Pipe

Inside	W		Tique				- 3
Caliber In.	PER	ГОНТ—— ГООТ	Length of Coil Feet	Inside Caliber	-WEI	GHT	Length of Coil Feet
	Lbs.	Oz.		Inches	PER Lbs.	Oz.	Feet
3/8 1/2 5/8 3/4 7/8		8	175	13/4		,	
1/2	1	10	140	2 2 1/4	3 3		ii
3/8		12	100	$2\frac{1}{4}$	3	71/2	
74	1		85	21/2	4		12
	1 1	8 8	55	3	4		12
1	1	8	55	31/2	.:		::
$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	2 3		50 34	4	5	10.4	12
172	0			41/2	8	4	12
3/		9		Light		-	
1/8		12	$\begin{array}{c} 155 \\ 235 \end{array}$	13/4	3 4	12	40
5/8 3/4 7/8	1	4	140	21/2	5	• •	40
3/4	1	8	115	3	4	$\dot{1}\dot{2}$	$\dot{1}\dot{2}$
7/8	2		85	31/2	5	14	12
1	2		85	4	6		12
11/4	2 2 2 3	8	70	41/2	19.00		
$\frac{11_4}{11_2}$	3	8	42			-	
			Lig!	ht			
3/8		12	235	13/4	4	8	35
1/2	1		175	2	5		30
5/8	1	12	100	2½ 3	6		12
3/4	2	8	85	3	6	3	12
1/2 5/8 3/4 7/8	2	8	40	31/2			
	2	8	70	4	8		12
$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	1 1 2 2 2 2 3 4		55 - 40	$4\frac{1}{2}$			
172	4		A CONTRACT OF THE	4.1.			
3/	1		Medi		A		/
18	1	4	175 140	13/4	5 7	8	28
5/8 3/4 7/8	1 2 2 3 3 3 5	4	85	21/2	8	/	22
3/	2	4	75	3	9	/	$\begin{array}{c} 12 \\ 12 \end{array}$
7%	3		58	31/2	9	/•	
1	3	4	53	4	10	/••	$\dot{1}\dot{2}$
11/4	3	12	48	41/2	10	/	12
$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	5		32				• • •
			Stro	na	152	- 3.5	
3/8	1	8	120	13/4	6	8	23
1/2	1	12	115	2	8		18
5/8	2	8	80	$\frac{2}{3}\frac{1}{2}$	11		12
5/8 3/4 7/8	2 3 3		67	3	12		12
	3	8	48	$3\frac{1}{2}$	15		12
1	4	;;	50	4	16		12
$\frac{11_4}{11_2}$	4	12	35	41/2			
1/2	6		36				
0/	0		Extra S	trong	27		
18	2 2 3		90	13/4	8		20
52	2 2	8	70 58	21/2	9		16
3/	3	8	48	2/2	$\begin{array}{c} 14 \\ 16 \end{array}$	• •	$\begin{array}{c} 12 \\ 12 \end{array}$
3/4 7/8	· ·		10	3 31/2	18	•••	$\frac{12}{12}$
	4	12	35	4	22	• •	$\frac{12}{12}$
11/4	6		28	41/2	22	••	14
$\frac{11/4}{11/2}$	7	8	20			• • •	
			ble Ext	ra Stron	a		
3/8	2	10		13/	The state of the s		
1/2	2 3 3 4		60	2	iò	8	15
5/8	3	8	50	21/2	17		12
3/4	4		44	31/2	20		15 12 12
7/8			30	$3\frac{1}{2}$			
3/8 1/2 5/8 3/4 7/8 1	5	8	30	4	25		$\dot{12}$
11/4 11/2	9	12	24	4.1/2	911		
1/2	9		17				• •



Weight	APPRO	XIMATE TH		AVERAG	E SIZE OF	Weight	
per		Nearest	Birminghan		HEET	· per	
Square Foot	Decimals	Fraction	Gauge	Width	Length	Roll	
Pounds	Inches	Inches	Number	Ft. In.	Feet	Pounds	
$1\frac{1}{2}$.0255	3/128	23	7-4	18	225	
2	.0340	$\frac{1}{32}$	20	7-6	18	270	
$2\frac{1}{2}$.0425	5/128	19	8-3	19	390	
3	.0510	$\frac{3}{64}$	18	8-3	19	475	
$3\frac{1}{2}$.0595	7/128	17	8-3	19	560	
4	.0680	1/16	16	8-6	20	680	
5	. 0850	$\begin{array}{r} 5 \\ \overline{64} \\ \underline{7} \\ \overline{64} \end{array}$	14	8-6	20	850	
6	.1010	7 64	12	8-9	22	1050	
7	.1180	15/128	11	8-9	22	1300	
8	.1350	1/8	10	8-9	25	1600	

Bar Tin and Half and Half Solder



Prices for half and half solder at market prices.



Bar Wiping Solder



Prices for Bar Wiping Solder at market prices.

Pig Lead



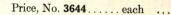
Prices for pig lead at market rates.

No. 6 Combination Lead Ferrules

				-PRICE, EACH		
		1½-in.	1½-in.	2-in.	3-in.	4-in.
	Lgth.	for 2-in.	for 2-in.	for	for	for
	In.	C.I. Pipe	C.I. Pipe	C.I. Pipe	C.I. Pipe	C.I. Pipe
	4			\$.28	\$.42	\$.50
	41/2	\$.28	\$.28			
	5	.36	.36	.41	.60	.72
	6	.43	.43	.46	.67	.85
	8	.51	.51	.57	.82	1.02
LEA	10	.60	.60	.67	.98	1.25
2 6	12	.67	.67	.76	1.10	1.40
	14		.80	.80	1.15	1.60
	16		.90	.86	1.22	1.73
	18		1.00	.92	1.30	1.85
	20		1.10	1.00	1.40	2.10
	24		1.30	1.15	1.60	2.30
	30			1.40	2.00	2.75
	36			1.65	2.30	3.25

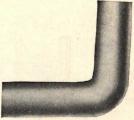
No. 3644 Spun Brass Drum Trap Covers

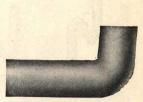
Nickel-plated brass trap cover; diameter 6 inches, height 13/6





Lead Bends





No. 1 Long Inlet

No. 2 Short Inlet

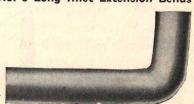
				ndard			
	Weight		NG INLET B	ENDS—		RT INLET B	ENDS
Size In.	per Foot Pounds	CENTER Inlet	TO END Outlet	Price Each		TO END Outlet	Price Each
11/4 11/2	11/2	6	6	\$.30 .50	31/2	6	\$.25
2 3	314	73/4	73/4	.78	33/4	73/4	.38
4	5 6	10	10	1.39	$\frac{4\frac{1}{4}}{5\frac{1}{2}}$	10	1.09
			Extra	Heavy			
11/4	21/2	6	6	\$.50 .79	31/2	6	\$.34
2 3	41/2	73/4	73/4	1.05	33/4	73/4	.62
3	6 8	10	$\frac{81}{4}$	1.60 2.40	4½ 5½	81/4 10	1.21
						The state of	-

Extension Lead Bends No. 4 Short Inlet Extension Bends



Standard

		Diam., In.	_		PRICE., EA	сн——	
Size	per Foot		_	OUTLET, CE	NTER TO EN	D	*Extra
Inches	Pounds	End	12-in.	15-in.	18-in.	20-in.	In.
11/4	11/2	$3\frac{1}{2}$	\$.40	\$.47	\$.55	\$.60	\$.031/4
11/2	$2\frac{1}{4}$	4	.56	.67	.77	.84	.041/2
2 3	31/4	33/4	.79	.94	1.09	1.19	.061/4
	5	41/4	1.39	1.65	1.90	2.07	.103/4
4	6	$5\frac{1}{2}$	1.70	2.00	2.30	2.48	.12
			Extr	a Heavy	/		
11/4	21/2	31/2	\$.60	\$.72	\$.84	\$.92	\$.05
11/2	$3\frac{1}{2}$	4	.90	1.07	1.24	1.35	.07
2	41/2	33/4	1.08	1.28	1.49	1.63	.081/2
3	6	41/4	1.57	1.87	2.16	2.35	.12
4	8	51/2	2.09	2.45	2.81	3.04	.15
	N	o. 3 Lo	na Inl	et Exte	nsion B	ends	



			Sta	ndard					
11/4	11/2	6	\$.46	\$.54	\$.62	\$.67	\$.031/4		
11/2	21/4	7	.67	.77	.88	.95	.041/2		
1½ 2 3	31/4	73/4	.99	1.14	1.29	1.39	.061/4		
3		81/4	1.73	1.99	2.24	2.42	.103/4		
4	6	10	2.15	2.44	2.73	2.92	.12		
	Extra Heavy								
11/4	21/2	6	\$.70	\$.82	\$.94	\$1.02	\$.05		
11/2	31/2	7	1.07	1.24	1.41	1.52	.07		
$1\frac{1}{4}$ $1\frac{1}{2}$ 2 3	41/2	73/4	1.35	1.56	1.76	1.90	.081/2		
3	6	81/4	1.96	2.25	2.54	2.74	.12		
4	8	10	2.62	2.98	3.34	3.58	.15		
*Add	d per	inch to list	t of near	rest size	for exce	ss length	1.		

Lead Traps







No. 10 Full S

No. 20 Three-quarter S

		3 20 14 5		Extra Heavy				
Size	Wt. per]	PRICE, EAG	CH—	Wt. per	Full S 34 S P		
In.	Ft. Lbs.	Full S	3/4 S	Half S	Ft. Lbs.	Full S	3/4 S	P
11/4	$\frac{1\frac{1}{2}}{2\frac{1}{4}}$	\$.58	\$.55	\$.51	21/2	\$.87	\$.81	\$.77
11/2	21/4	.90	.81	.75	31/2	1.25	1.15	1.09
2			1.30		$4\frac{1}{2}$	1.85	1.73	1.57
	0							



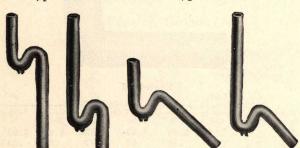




No. 140 Running

No. 130 Running Y

			Standard		Extra Heavy			
Size	Wt. per	P	RICE, EAC	H-Run Y	Wt. per	P	RICE, EACH	
11/4	11/2	\$.68	\$.48	\$.52 .76	21/2	\$1.06	\$.70	\$.74
11/2	21/4	1.08	.72	.76	31/2	1.54	1.03	1.09
2	31/4	1.73	1.13	1.34	$4\frac{1}{2}$	2.33	1.46	1.61



No. 1 Full S No. 2 Full S No. 12 Three-quarter No. 11 Three-quar-Long Outlet Long Inlet S Long Outlet ter S Long Inlet

		Stand	lard		Extra	Heavy
		PRICE.	Елсн		PRICE, EACH	
Size In.	Wt. per Ft. Lbs.	Full S Long Inlet or Outlet	34 S Long Inlet or Outlet	Wt. per Ft. Lbs.	Full S Long Inlet or Outlet	34 S Long Inlet or Outlet
$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	$ \begin{array}{c} 1\frac{1}{2} \\ 2\frac{1}{4} \\ 5\frac{1}{4} \end{array} $	\$.93 1.36 2.00	\$.85 1.19 1.76	$\frac{2\frac{1}{2}}{3\frac{1}{2}}$ $\frac{4\frac{1}{2}}{2}$	\$1.44 1.95 2.69	\$1.28 1.72 2.33



Wt. per Ft. Lbs.



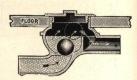
Long Inlet

Stand	lard		Extra	Heavy
PRICE,			PRICE	, Еасн
Half S	Bag, Long		Half S	Bag, Long
Long Inlet		Wt. per	Long Inlet	
or Outlet	Outlet	Ft. Lbs.	or Outlet	Outlet
\$.76	\$1.09	21/2	\$1.14	\$1.67
1.02	1.58	31/2	1.50	2.24
1.55	2.34	41/2	2 02	3 11

Cudell Lead Bath Traps

Made with white metal cap and

Size	D.i.s E. t
Inches	Price, Each Lead Pipe
11/4	\$3.80
11/4 11/2	4.90



No. 2 Cudell Lead P Traps With Bath Cover

Metal Ball-Anti-syphon

Made with white metal cap

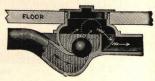
and fit	tings.	
Size	Price, Each	Add for
In.	Lead Pipe	N.P. Cover
11/4	\$2.30	\$.10
11/2	2.90	.10

No. 2 Cudell Lead Running Traps With Bath Cover

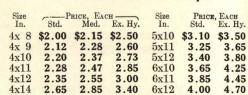
Metal Ball

Anti-syphon Made with white metal cap and fittings.
Size Price, Each
Lead Pipe Add for N.P. Cover





No. 5 Lead Drum Traps



Blake Extra Heavy Cast Iron Drum Traps



Opening for cover tapped for 3-inch iron pipe, and faced. Furnished regularly with wide flange, 5½ inches, heavy brass screw cover. Tapping is 1½ inches, but can be furnished 1½ inches if wanted 2-inch tappings will be exceeded.

inches if wanted. 2-inch tappings will be special.



No. 1210

No. 1212

No.	Size Inches	Tap- pings	Price Each	No.	Size Inches	Tap-	
1200	4x5	2	\$2.00	1208	4x8	3	\$2.75
1202	4x8	2	2.25	1210	4x8	3	2.75
1204	4x8	2	2.25	1212	4x8	3	2.75
1206	4x8	2	2.25	1214	4x8	4	3.00

Cast Iron Long S Traps No. 51, for Sink Collar

No. 52N, with Slip Joint Nut

Finish	PAIN	NTED	GALV	Pro
Size	11/ ₄ \$1.50	\$2.00	\$2.25	\$2.90

Cast Iron P Traps No. 4072, with Slip Joint Nut

	No. 66, with	h Male	Thre	he
11/4	\$1.00 \$1.40	11/2	\$1.30	\$1.80
Size In.	Paint- Galv. or ed Enam. Ptd.	Size In.	Paint-	Galv. or Enam. Ptd.
	PRICE, EACH		Price	E. EACH

Both Ends 11/4 \$.75 \$1.15 11/2 \$1.00 \$1.50

No. 65 Cast Iron P Traps

For Sink Collar

110000	Size inches Price, Painted each	11/4	11/2
	Price. Painted each "Galv. or White Enam-	\$.75	\$1.00
	el Paintedeach	1.15	1 50
	Add for Top Cleanout Plug.		1.50
	each	.35	35

Cast Iron Running Traps With Brass Cleanout Screw



No. 84 Male Thread Both Ends

Sizeinches	11/4	11/2	2
Price, Painted each	\$1.00	\$1.50	\$2 25
" Galvanized"	1.40	2.00	3.00
No. 85 Male and Female			
Price, Painted each	\$1.15	\$1.65	\$2.50
" Galvanized"	1.55	2.15	3.25
Threaded Female Both Ends Add "	10	10	25



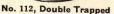
No. 1190 Bath Trap Ells

Roughs-in a 4x5 cast iron rumd trap in 7½-inch space, where it requires 9-inch width 1½-inch street ell connection.

$1\frac{1}{2}$ -inch tap.	Weight, 3½ pounds.
Price	ooch \$ 00

Dehn Acme Double Trapped Grease **Traps**







No. 113, Double Trapped Water Cooled

Water cooling grease traps should be properly connected with cold water supply to permit continuous circulation of cold water through water cooler in grease trap. The 15-1 and 18-1 sizes of Nos. 112 and 113 grease traps only furnished with 2-inch hub or iron pipe threaded connections. Larger sizes have 4-inch hub connections.

Size	Diam.		Waste	Waste	VENT	Hub	PRICE,	EACH -
	Top	Over All		Outlet	No. 112	No. 113	PAIN'	PED
No.	In.	In.	In.	In.	In.	In.	No. 112	No. 113
15–1	12	15	2	2	11/2	11/2	\$20.00	\$35.00
18-1	12	18	2	2	11/2	11/2	25.00	40.00
24-1	20	24	4	4	2	2	45.00	65.00
30-1	20	30	4	4	2	2	55.00	75.00
36-1	20	36	4	4	2	2	70.00	90.00
24-2	24	24	4	4	2	4	60.00	80.00
30-2	24	30	4	4	2	4	75.00	95.00
36-2	24	36	4	4	2	4	90.00	110.00
Can	he fu	rnishod	lang	malad	ingida			1 1

mished enameled inside or enameled inside and outside. Prices upon application.

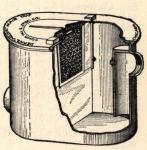
No. 111½ Dehn Hygienic Hair Traps

PATENTED

Inlet and outlet 11/2-inch iron pipe, length 13 inches, width 9 inches, depth 9 inches, grease space 6x11 inches.

	PRICE, EACH-	Will the table
Painted	Enameled	Enameled
In and	In or	In and
Out	Out	Out
\$15.00	\$20.00	\$25.00

Can be furnished with 11/2inch brass solder unions with straight or bent tail pieces at \$3.00 extra per set.



No. 7082 Cast Iron Grease Traps



Cast iron grease trap with brass handhole cover and removable top with swivel bolts.

Diam.	Height Inches	Opening Inches
161/2	13	2 Soil
161/2	13	2I.P.
161/2	141/2	4 Soil

	30			Pipe	Pipe	
Price,	No.	7082,	Painted All Over	\$18.10	\$20.45	
THE STATE OF	"	7082,	Enameled Inside	28.50	30.85	
"	"	7082,	" All Over	41.90	44.25	

Cast Iron Soil Pipe

Five-foot Lengths



		PRICE, PE	R FOOT—		
Size	SIN	GLE HUB—		LE HUB—	
Inches	Standard	Extra Heavy	Standard	Extra Heavy	
2	\$.26	\$.40	\$.28	\$.42	
3	.35	.62	.37	.65	
4	.46	.84	.48	.88	
5	.58	1.10	.62	1.14	
6	.70	1.30	.74	1.36	
7	1.40	2.20	1.60	2.40	
8	1.40	2.20	1.60	2.40	
10	2.40	3.60	2.60	3.80	
12	3.00	4.40	3.20	4.60	
15	5.60	8.00	5.80	8.40	

Approximate Weight of Soil Pipe per Foot

Size...inches 2 Standard...lbs. 33/5 51/2 3 12 15 5½ 7 9 11 9½ 13 17 20 17 34 15 45 75 27 24

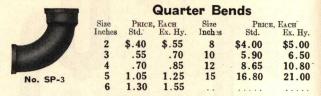
Approximate Weight of Soil Pipe Fittings

	Style			_			-ST	ANDARI)		_
	Size	inc	hes	2	3	4	5	6	8	10	12
	Quarter Bends,			$4\frac{1}{2}$	7	101	13	$16\frac{1}{2}$	33	54	581
	Sixth "	"	"	4	$6\frac{1}{2}$	9	111	14	30	30	48
	Eighth "	"	"	31/2	6	8	101	13	24	38	421
	T Branches	"	"	7	11	141	181	23	33	42	102
	San. T	"	"	71/2	12	16	20	24	49	100	
	Crosses	"	"	$9\frac{1}{2}$	14	19	$23\frac{1}{2}$	$28\frac{1}{2}$	40	70	100
	San. Crosses	"	"	$10\frac{1}{2}$	$15\frac{1}{2}$	$20\frac{1}{2}$	$25\frac{1}{2}$	$31\frac{1}{2}$	52		
	Y Branches	"	"	$7\frac{1}{2}$	12	17	22	28	58	106	158
	Half Y Branches	"	- "	7	11	15	19	24			
	Double Y "	"	"	$10\frac{1}{2}$	16	$22\frac{1}{2}$	30	$36\frac{1}{2}$	77	121	
	Double Hubs	"	"	4	$5\frac{3}{4}$	$7\frac{1}{2}$	9	$10\frac{1}{2}$	16	21	35
	S Traps	"	"	81/2	14	21	$28\frac{1}{2}$	$37\frac{1}{2}$	94		
6	P "	"	"	7	12	$17\frac{1}{2}$	$24\frac{1}{2}$	$31\frac{1}{2}$	80		
0	Rung Traps	"	"	$8\frac{1}{2}$	$13\frac{1}{2}$	$19\frac{1}{2}$	26	34	54		
	Reducers	"	"		$4\frac{1}{2}$	6	$7\frac{1}{2}$	9	8	$21\frac{1}{2}$	28
							-	**			
	Style			_	ANT.			A HEA	- m		
	Size	. incl	nes	2	3	4	5	6	8	10	12
	SizeQuarter Bends,	lbs	ea.	$6\frac{3}{4}$	$10\frac{1}{2}$	15	5 19	$\begin{array}{c} 6 \\ 23\frac{1}{2} \end{array}$	8 52	80	95
	Size	lbs	ea.	$\frac{6\frac{3}{4}}{6}$	$10\frac{1}{2}$ $9\frac{1}{4}$	15 13	5 19 16½	$ \begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \end{array} $	8 52 44	80 50	95 90
	Size	lbs	ea.	$6\frac{3}{4}$ 6 $5\frac{1}{2}$	$10\frac{1}{2}$ $9\frac{1}{4}$	15 13 $12\frac{1}{4}$	$ \begin{array}{r} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \end{array} $	6 23½ 20 18¼	8 52 44 40	80 50 56	95 90 80
	Size	lbs	ea. " " "	$ \begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \end{array} $	$10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4}$	15 13 $12\frac{1}{4}$ 21	$ \begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \end{array} $	$ \begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \end{array} $	8 52 44 40 60	80 50 56 75	95 90 80 166
	Size	lbs	ea. " " " " " " " " " " " " "	$ \begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \end{array} $	$ \begin{array}{r} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \end{array} $	15 13 $12\frac{1}{4}$ 21 $22\frac{1}{2}$	$5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \\ 28$	$ \begin{array}{c} 6\\23\frac{1}{2}\\20\\18\frac{1}{4}\\32\frac{1}{2}\\34\frac{1}{2} \end{array} $	8 52 44 40 60 80	80 50 56 75 135	95 90 80 166 210
	Size	lbs	nes ea. "	$ \begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \end{array} $	$ \begin{array}{r} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ \end{array} $	$ \begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \end{array} $	$ \begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \end{array} $	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 40\frac{1}{2} \end{array}$	8 52 44 40 60 80 92	80 50 56 75 135 116	95 90 80 166
	Size	incl	nes ea. "" ""	$ \begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \end{array} $	$ \begin{array}{r} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \end{array} $	$ \begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \\ 29\frac{1}{2} \end{array} $	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \\ 36\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 40\frac{1}{2} \\ 44\frac{1}{2} \end{array}$	8 52 44 40 60 80 92 79	80 50 56 75 135 116 161	95 90 80 166 210 176
	Size	lbs " " " " " " " " " " " " "	nes ea. " " " " " "	$ \begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \end{array} $	$ \begin{array}{r} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \\ 17 \end{array} $	$ \begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \\ 29\frac{1}{2} \\ 24 \end{array} $	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \\ 36\frac{1}{2} \\ 31\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 40\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \end{array}$	8 52 44 40 60 80 92 79 91	80 50 56 75 135 116	95 90 80 166 210
	Size	inellbs "" "" "" "" "" "" "" "" ""	nes ea. "" "" ""	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \\ 10\frac{1}{4} \end{array}$	$10\frac{1}{2}$ $9\frac{1}{4}$ $8\frac{1}{2}$ $15\frac{1}{4}$ $16\frac{1}{4}$ 22 17 $15\frac{1}{2}$	$\begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \\ 29\frac{1}{2} \\ 24 \\ 21\frac{1}{2} \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \\ 36\frac{1}{2} \\ 27\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 40\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \end{array}$	8 52 44 40 60 80 92 79 91 90	80 50 56 75 135 116 161 136	95 90 80 166 210 176
	Size	. incl	nes ea. "" "" "" ""	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \\ 10\frac{1}{4} \\ 14\frac{3}{4} \end{array}$	$\begin{array}{c} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \\ 17 \\ 15\frac{1}{2} \\ 23 \\ \end{array}$	$\begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \\ 29\frac{1}{2} \\ 24 \\ 21\frac{1}{2} \\ 32 \\ \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 15\frac{1}{4} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \\ 36\frac{1}{2} \\ 27\frac{1}{2} \\ 41\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 40\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \\ 52 \end{array}$	8 52 44 40 60 80 92 79 91 90 100	80 56 75 135 116 161 136	95 90 80 166 210 176 218
	Size	.inellbs " " " " " " " " " " " " " " " " " "	nes ea. "" "" "" "" ""	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \\ 14\frac{3}{4} \\ 5\frac{3}{4} \\ \end{array}$	$\begin{array}{c} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 22 \\ 17 \\ 15\frac{1}{2} \\ 23 \\ 8\frac{1}{4} \end{array}$	$\begin{array}{c} 15 \\ 13 \\ 12\frac{1}{4} \\ 21 \\ 22\frac{1}{2} \\ 27 \\ 29\frac{1}{2} \\ 24 \\ 21\frac{1}{2} \\ 32 \\ 10\frac{3}{4} \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 26\frac{1}{2} \\ 28 \\ 36\frac{1}{2} \\ 27\frac{1}{2} \\ 41\frac{1}{2} \\ 12\frac{3}{4} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 440\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \\ 52 \\ 14\frac{3}{4} \end{array}$	8 52 44 40 60 80 92 79 91 90 100 30	80 50 56 75 135 116 161 136	95 90 80 166 210 176
	Size	. incl lbs	nes ea. " " " " " " " " " " " " " " " " " "	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \\ 14\frac{3}{4} \\ 5\frac{3}{4} \\ 12 \\ \end{array}$	$\begin{array}{c} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \\ 17 \\ 15\frac{1}{2} \\ 23 \\ 8\frac{1}{4} \\ 20 \\ \end{array}$	$\begin{array}{c} 15\\ 13\\ 12\frac{1}{4}\\ 21\\ 22\frac{1}{2}\\ 27\\ 29\frac{1}{2}\\ 24\\ 21\frac{1}{2}\\ 32\\ 10\frac{3}{4}\\ 30\\ \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 26\frac{1}{2} \\ 28 \\ 36\frac{1}{2} \\ 27\frac{1}{2} \\ 41\frac{1}{2} \\ 3\frac{3}{4} \\ 40\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4}\frac{1}{2} \\ 32\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \\ 52 \\ 14\frac{3}{4}\frac{3}{4} \\ 53\frac{1}{2} \end{array}$	8 52 44 40 60 80 92 79 91 90 100 30 123	80 56 75 135 116 161 136	95 90 80 166 210 176 218
	Size	incl	nes ea. " " " " " " " " " " " " " " " " " " "	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 12 \\ 10\frac{1}{2} \\ 10\frac{1}{2} \\ \end{array}$	$\begin{array}{c} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \\ 17 \\ 23 \\ 8\frac{1}{4} \\ 20 \\ 17\frac{1}{4} \\ \end{array}$	$\begin{array}{c} 15\\ 13\\ 12\frac{1}{4}\\ 21\\ 22\frac{1}{2}\\ 27\\ 29\frac{1}{2}\\ 24\\ 21\frac{1}{2}\\ 32\\ 10\frac{3}{4}\\ 30\\ 25\frac{1}{2}\\ \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 26\frac{1}{2} \\ 28 \\ 33\frac{1}{2} \\ 27\frac{1}{2} \\ 41\frac{1}{2} \\ 34\frac{1}{2} \\ 34\frac{1}{2} \\ 34\frac{1}{2} \\ 34\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4} \\ 32\frac{1}{2} \\ 34\frac{1}{2} \\ 40\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \\ 52 \\ 14\frac{3}{4} \\ 53\frac{1}{2} \\ 45 \end{array}$	8 52 44 40 60 80 92 79 91 90 100 30 123 100	80 56 75 135 116 161 136	95 90 80 166 210 176 218
の 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Size	. incl lbs	nes ea. " " " " " " " " " " " " " " " " " "	$\begin{array}{c} 6\frac{3}{4} \\ 6 \\ 5\frac{1}{2} \\ 10\frac{1}{4} \\ 11 \\ 13\frac{1}{4} \\ 14\frac{1}{2} \\ 11 \\ 14\frac{3}{4} \\ 5\frac{3}{4} \\ 12 \\ \end{array}$	$\begin{array}{c} 10\frac{1}{2} \\ 9\frac{1}{4} \\ 8\frac{1}{2} \\ 15\frac{1}{4} \\ 16\frac{1}{4} \\ 19\frac{3}{4} \\ 22 \\ 17 \\ 15\frac{1}{2} \\ 23 \\ 8\frac{1}{4} \\ 20 \\ \end{array}$	$\begin{array}{c} 15\\ 13\\ 12\frac{1}{4}\\ 21\\ 22\frac{1}{2}\\ 27\\ 29\frac{1}{2}\\ 24\\ 21\frac{1}{2}\\ 32\\ 10\frac{3}{4}\\ 30\\ \end{array}$	$\begin{array}{c} 5 \\ 19 \\ 16\frac{1}{2} \\ 26\frac{1}{2} \\ 28 \\ 36\frac{1}{2} \\ 27\frac{1}{2} \\ 41\frac{1}{2} \\ 3\frac{3}{4} \\ 40\frac{1}{2} \end{array}$	$\begin{array}{c} 6 \\ 23\frac{1}{2} \\ 20 \\ 18\frac{1}{4}\frac{1}{2} \\ 32\frac{1}{2} \\ 44\frac{1}{2} \\ 39\frac{1}{2} \\ 34 \\ 52 \\ 14\frac{3}{4}\frac{3}{4} \\ 53\frac{1}{2} \end{array}$	8 52 44 40 60 80 92 79 91 90 100 30 123	80 56 75 135 116 161 136	95 90 80 166 210 176 218

To determine the right or left-hand inlet or outlet in bends, branches and offsets, place them with the hub facing toward you and with spigot lower than hub. On traps, place in regular position with the hub end nearest you.

Long quarter bends are measured from the inside of hub nearest spigot to end of spigot. Other bends are measured from end of spigot to nearest point on inside base of hub. Long T's, Y's, etc., are measured from the base of the hub on main to the end of spigot.

Cast Iron Soil Pipe Fittings



			Fifth	Bend	S	
Size Inches	Prici Std.	Е, Еасн Ех. Ну.	Size Inches	PRICE, Std.	Ех. Ну.	
2	\$.45	\$.60	8	\$4.00	\$5.00	
3	.80	1.00	10	5.90	6.50	1000
4	.80	1.00	12	8.65	10.80	
5	1.05	1.25	15	16.80	21.00	
6	1.30	1.55				No. SP-

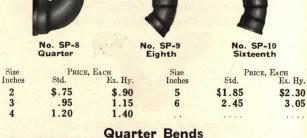
	Size Inches	PRICE Std.	Ex. Hy.	Size Inches	PRICE, Std.	Ех. Ну.
	2	\$.40	\$.45	8	\$4.00	\$5.00
4	. 3	.60	.75	10	5.90	6.50
	4	.60	.75	12	8.65	10.80
No. SP-5	5	1.05	1.25	15	16.80	21.00
	6	1.30	1.55			
		Eigl	nth Be	nds		

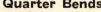
Sixth Bends

			ignen	Denus		
Size	e PRICE, EACH		Size	PRICE	E, EACH	
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.	
2	\$.35	\$.40	8	\$4.00	\$5.00	
3	.45	.55	10	5.90	6.50	
4	.60	.75	12	8.65	10.80	
5	.80	1.00	15	16.80	21.00	
6	1.05	1.25				No. SP-6

Sixteenth Bends Size Inches PRICE, EACH Std. Ex. Hy. PRICE, EACH Std. Ex. Hy Inches 2 \$.35 \$.40 8 \$5.00 \$4.00 3 .50 .70 10 5.90 6.50 4 .60 .70 12 8.65 10.80 .80 1.00 21.00 16.80 No. SP-7 1.00 1.25

Double Hub Bends







Size	Size. Inle	t PRICE	EACH	Size	Size, Inlet	PRICE	Еасн
In.	Inches	Std.	Ex. Hy.	In.	Inches	Std.	Ex. Hy.
2	2	\$1.25	\$1.55	5	2	\$3.70	\$4.60
3	2	1.25	1.55	5	3	3.70	4.60
3	3	1.25	1.55	5	4	3.70	4.60
4	2	1.25	1.55	6	2	4.30	5.40
4	3	3.10	3.85	6	3	4.30	5.40
4	4	3.10	3.85	6	4	4 30	5 40

Cast Iron Soil Pipe Fittings Long Bends



No. SP-14 Long Quarter Bends



No. SP-15 Long Sixth Bends



No. SP-16 Long Eighth Bends

PRICE EACH Extra andard Heavy Length in Clear Inches Size Inches Standard 222333444 \$.90 \$1.10 1.05 1.30 24 1.50 1.85 12 1.85 18 24 1.85 2.30 2.75 2.25 12 1.25 1.55 1.85 18 1..50 24 2.75 30 3.85 4.80 4.90 6.15 12 3.70 4.60 18 4.30 5.40 24 36 4.90 6.15 5.25 6.55 12 4.30 5.40 18 5.00 6.15 24 5.50 6.90 18 7.50 10.00

Long Quarter Bends
No. SP-17 with 2-inch Low Heel Inlet

	Length
Size	in Clear
Inches	Inches
4	18





Reilly Long Sweep Quarter Bends

J

No. 5P-22		
Size	PRICE	, EACH
Inches	Standard	Extra Heavy
4	\$2.80	\$3.50
5	4.00	5.00
6 4x2	4.80	6.00
5x4	2.15	2.70
UAT	2.80	3 50

Reilly Long Sweep Quarter Bends No. SP-23 with Foot Rest

Size Inches	Stand- ard	Extra Heavy
4 5	\$3.80	\$4.50
6	5.25 6.30	6.25 7.50
4x2 5x4	3.15	3.70
JA4	4.05	4.75



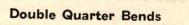
Sanitary Long Sweep Quarter Bends



	10. 31	-21			
α.	PRICE,	Елсн		, EACH	
Size In.	Std.	Extra Heavy	Size In.	Std.	Extra Heavy
2	\$.75	\$.90	100000	\$2.75	\$3.40
3	.95	1.15	8	6.00	7.50
4	1.25	1.55	10	8.00	10.00
5	1.70	2.00			

Sanitary Short Sweep Quarter Bends

			No.	SP.			
α.	PRICE	EACH			PRICE	E, EACH	
Size	a	Extra		Size		Extra	
In.	Std.	Heavy		In.	Std.	Heavy	
2	\$.60	\$.75		6	\$2.50	\$3.10	
3	.90	1.10		8	4.80	6.00	
4	1.15	1.40		10	6.80	8.50	
5	1.55	1.85					



Cast Iron Soil Pipe Fittings



Size	PRICE, EACH				
Inches	Standard	Extra Heavy			
2x2	\$1.50	\$1.85			
3x2	2.45	3.05			
3x3	2.55	3.20			
4x2	2.80	3.45			
4x3	2.80	3.45			
4x4	2.80	3.45			

Single Hub Return Bends

Size	PRICE, EACH					
Inches	Standard	Extra Heavy				
2	\$1.25	\$1.55				
3	1.50	1.85				
4	1.70	2.00				
5	2.45	3.05				
6	3.10	3.85				
8		7.75				



Double Hub Return Bends



Dize	PRIC	E, EACH
Inches	Standard	Extra Heavy
2	\$1.35	\$1.70
3	1.60	2.00
5	1.75	2.20
5	2.75	3.40
6	3.40	4.25
8		8.25

T Branches



No. SP-52, Plain



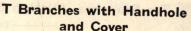
No. SP-53 With Right-Hand

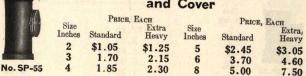
		PRICE,	EACH		PRICE,	EACH	Side I	nlet	
	Size In.	Stand- ard	Extra Heavy	Size In.	Stand- ard	Extra Heavy	Ex	TRAS, AD	D TO
	2x2	\$.55	\$.75	6x2	\$1.80	\$2.15			Brass
	3x2	.75	.90	6x3	1.80	2.15	~.	Right	Trap
	3x3	.85	1.10	6x4	1.80	2.15	Size Inlets	or Left	Screws
	4x2	.85	1.10	6x5	2.00	2.45	In.	Inlets	Incl. Inlets
	4x3	1.00	1.25	6x6	2.00	2.45	2	\$1.00	\$1.50
	4x4	1.15	1.40	8	6.00	9.00	3	1.25	2.00
!	5x2	1.20	1.45	10	10.80	15.10	4	1.50	2.50
	5x3	1.25	1.55	12	15.10	19.40	5	2.00	3.00
!	5x4	1.40	1.70	15	33.60	42.00	6	2.50	
	5x5	1.65	2.00	•			0	2.30	3.50
							*		

When ordering specify whether wanted with right or left-hand side inlet.

Tapped T Branches

	The state of the s		THE RESERVE OF THE PERSON NAMED IN	100.00
CI:	TI	PRICE,	EACH-	
Size Inches	Thread Inches	Standard	Extra Heavy	
2	11/4, 11/6, 2	\$.70	\$.85	
3	11/4, 11/2, 2	.85	1.10	
4	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	1.00	1.25	
5	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	1.60	2.00	and the same of th
6	11/4, 11/2, 2	2,50	3.10	N- CD -





Cast Iron Soil Pipe Fittings Long T Branches



No. SP-57

	Length				Length		-
a.	in	PRICE	, EACH		in	PRICE	E, EACH
Size	Clear		Extra	Size	Clear		Extra
In.	In.	Std.	Heavy	In.	In.	Std.	Heavy
2	12	\$1.20	\$1.50	4	24	\$4.10	\$5.05
2	18	2.00	2.45	4	30	4.65	5.85
2	24	2.25	2.75	4	36	5.35	6.60
2	30	2.45	3.05	5	18	4.20	5.25
2	36	2.70	3.35	5	24	4.95	6.15
3	12	1.45	1.80	5	30	5.70	7.10
3	18	2.60	3.25	5	36	6.60	8.15
3	24	3.10	3.85	6	18	4.90	6.15
3	30	3.55	4.45	6	24	5.80	7.25
3	36	4.05	5.05	6	30	6.80	8.45
4	12	2.80	3.50	6	36	7.70	9.55
4	18	3.50	4.30				

Sanitary T Branches





No. SP-60 With Right-hand Side Inlet

	PRICE	E, EACH		PRICE.	EACH			
Size In.	Std.	Extra Heavy	Size Inches	Std.	Extra Heavy		EXTRAS	s, Add To
2x2	\$.55	\$.75	6x2	\$1.80	\$2.15			EACH
3x2	.75	.90	6x3	1.80	2.15		D:-14	Brass
3x3	.85	1.10	6x4	1.80	2.15	Size	Right	Trap Screwe
4x2	.85	1.10	6x5	2.00	2.45	Inlets	Left	Incl.
4x3	1.00	1.25	6x6	2.00	2.45	In.	Inlets	Inlets
4x4	1.15	1.40	7	7.00	9.80	2	\$1.00	\$1.50
5x2	1.20	1.45	8	6.00	9.00	3	1.25	2.00
5x3	1.25	1.55	10	10.80	15.10	4	1.50	2.50
5x4	1.40	1.70	12	15.10	19.40	5	2.00	3.00
5x5	1.65	2.00	15	33.60	42.00	6	2.50	3.50
1371	hon one	oning o	monifer	whathan	montad	with	mocht	or loft

When ordering specify whether wanted with right or lefthand side inlet.

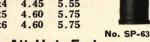
No. SP-62

Tapped Sanitary T Branches

		PRICE,]	EACH—
Size Inches	Thread Inches	Standard	Extra Heavy
2	11/4, 11/2, 2	\$.75	\$.90
3	11/4, 11/2, 2	.95	1.10
4	$1\frac{1}{4}, 1\frac{1}{2}, 2$	1.25	1.55
5	11/4, 11/2, 2	1.85	2.30
6	11/4, 11/2, 2	2.95	3.70

Special Reducing Sanitary T Branches

Size	PRICE	E, EACH	Size	PRICE	Елсн
Inches		Ex. Hy.	Inches		Ex. Hy.
3x2x3	\$2.50	\$3.15	5x4x5	\$3.80	\$4.75
4x2x4	3.00	3.70	6x4x4	4.45	5.55
4x3x4	2.95	3.70	6x4x5	4.60	5.75
5x4x4	3.80	4.75	6x4x6	4.60	5.75



Tee Branches, All Hub Ends

		PRICE, EACH	
	Size Inches	Standard	Extra Heavy
	2	\$2.25	\$2.75
	3	3.45	4.30
2	4	4.65	5.85
	5	5.65	7.05
No. SP-56	6	7.35	9.20

Cast Iron Soil Pipe Fittings Long Sanitary T Branches



No. SP-64

	Length	PRICE	Елсн		Length	PRICE,	EACH
Size Inches	Clear In.	Std.	Extra Heavy	Size Inches	Clear In.	Std.	Extra Heavy
2	12	\$1.20	\$1.50	4	24	\$4.10	\$5.05
2	18	2.00	2.45	4	30	4.65	5.85
2	24	2.25	2.75	4	36	5.35	6.60
2	30	2.45	3.05	5	18	4.20	5.25
2	36	2.70	3.35	5	24	4.95	6.15
3	12	1.45	1.80	5	30	5.70	7.10
3	18	2.60	3.25	5	36	6.60	8.15
3	24	3.10	3.85	6	18	4.90	6.15
3	30	3.55	4.45	6	24	5.80	7.25
3	36	4.05	5.05	6	30	6.80	8.45
4	12	2.80	3.50	6	36	7.70	9.55
4	18	3.50	4.30	8	36	9.00	

Y and Half Y Branches

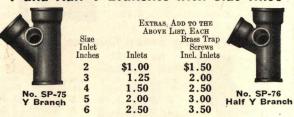


No. SP-73 Y Branch

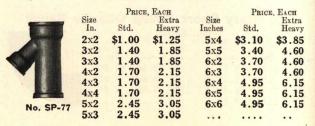


Size	Stand-	E, Each Extra	Size	PRICE,	EACH
Inches	ard	Heavy	Inches	Stand- ard	Extra Heavy
2x2	\$.55	\$.75	6x2	\$1.80	\$2.15
3x2	.75	.90	6x3	1.80	2.15
3x3	.85	1.10	6x4	1.80	2.15
4x2	.85	1.10	6x5	2.00	2.45
4x3	1.00	1.25	6x6	2.00	2.45
4x4	1.15	1.40	7	7.00	9.80
5x2	1.20	1.45	8	6.00	9.00
5x3	1.25	1.55	10	10.80	15.10
5x4	1.40	1.70	12	15.10	19.40
5x5	1.65	2.00	15	33.60	42.00

Y and Half Y Branches with Side Inlet



Inverted Y Branches



Cast Iron Soil Pipe Fittings Long Y Branches



No. SP-78

	Length				Length		
Size	in	PRICE,			in	PRICE	, EACH
Inches	Clear Inches	Std.	Extra Heavy	Size Inches	Clear Inches	Std.	Extra Heavy
2	12	\$1.20	\$1.50	4	24	\$4.10	\$5.05
2	18	2.00	2.45	4	30	4.65	5.85
2	24	2.25	2.75	4	36	5.35	6.60
2	30	2.45	3.05	5	18	4.20	5.25
_	36	2.70	3.35	5	24	4.95	6.15
3	12	1.45	1.80	5	30	5.70	7.10
3	18	2.60	3.25	5	36	6.60	8.15
3	24	3.10	3.85	6	18	4.90	6.15
3	30	3.55	4.45	6	24	5.80	7.25
3	36	4.05	5.05	6	30	6.80	8.45
4	12	2.80	3.50	6	36	7.70	9.55
4	18	3.50	4.30				

Special Reducing Y Branches



Size		E, EACH	Size		E, EACH
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
3x2x3	\$2.50	\$3.15	6x4x5	\$4.60	\$5.75
4x2x4	2.95	3.70	6x5x4	4.60	5.75
4x3x4	2.95	3.70	6x5x5	4.60	5.75
5x4x4	3.80	4.75	6x4x6	4.60	5.75
5x4x5	4.60	5.75	6x5x6	4.60	5.75
6x4x4	4.45	5.55			

No. SP-79

Inverted Y Branches

Tapped for Iron Pipe

Thread, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inches.

	PRICE.	PRICE, EACH			
Size In.	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
2	\$1.40	\$1.70	5	\$2.80	\$3.50
3	2.00	2.45	6	3.40	4.25
4	2.20	2.75			



Double Inverted Y Branches



No. SP-81

Size	PRICE, I	EACH —
In.	Standard	Ex. Hy.
2x2	\$2.45	\$3.05
3x2	3.10	3.85
3x3	3.10	3.85
4x2	3.70	4.60
4x3	3.70	4.60
4x4	3.70	4.60

Double Y Branches







No. SP-91 With Side Inlets

	PRICE	EACH		PRICE, EAC.				
Size		Extra	Size		Eztra		EXTRAS	ADD TO
In.	Std.	Heavy	Inches	Std.	Heavy		LIST	, EACH
2x2	\$1.25	\$1.55	5x5	\$4.95	\$6.15			Brass Trap
3x2	1.65	2.00	6x2	6.15	7.70	Size		Screws
3x3	1.65	2.00	6x3	6.15	7.70	Inle		Incl.
4x2	1.80	2.15	6x4	6.15	7.70	ln.	Inlets	Inlets
4x3	1.80	2.15	6x5	6.15	7.70	2	\$1.00	\$1.50
4x4	1.80	2.15	6 x 6	6.15	7.70	3	1.25	2.00
5x2	4.95	6.15	8x8	9.00	13.50	4	1.50	2.50
5x3	4.95	6.15	10x10	16.20	22.65	5	2.00	3.00
5v4	4 95	6 15	12v10	22 70	29 15	6	2 50	3 50

Cast Iron Soil Pipe Fittings Double Half Y Branches





Size In.	Price Std.	Extra Heavy	Size In.	PRICE Std.	Extra Extra Heavy			ADD TO
2x2	\$1.25	\$1.55	5x5	\$4.95	\$6.15		11131	Brass
3x2	1.65	2.00	6x2	6.15	7.70	Size		Trap
3x3	1.65	2.00	6x3	6.15	7.70	Inlet		Screws Incl.
4x2	1.80	2.15	6x4	6.15	7.70	In.	Inlets	Inlets
4x3	1.80	2.15	6x5	6.15	7.70	2	\$1.00	\$1.50
4x4	1.80	2.15	6x6	6.15	7.70	3	1.25	2.00
5x2	4.95	6.15	8x8	9.00	13.50	4	1.50	2.50
5x3	4.95	6.15	10x10	16.20	22.65	5	2.00	3.00
5x4	4.95	6.15	12x10	22.70	29.15	6	2.50	3.50

Long Double Y Branches



Size	PRICE,	EACH-
Inches	Standard	Ex. Hy.
2x2x12	\$1.60	\$2.00
2x2x18	2.75	3.45
2x2x24	3.00	3.75
4x2x18	4.25	5.30
4x2x24	4.85	6.05
4x4x18	4.65	5.80
4x4x24	5.25	6.55
4x4x30	5.90	7.35
4x4x36	6.50	8.10
5x4x18	5.40	6.75
5x4x24	6.10	7.65
5x4x30	6.90	8.60
5x4x36	7.70	9.65
6x4x18	6.10	7.65
6x4x24	7.00	8.75
6x4x30	7.95	9.95
6x4x36	8.85	11.05

Combination Y and Eighth Bends



No. SP-101 Plain





No. SP-102 With Left-hand Side Inlet

~.	PRICE	E, EACH		PRICE	E, EACH		EXTRA	s, ADD TO
Size In.	Std.	Extra Heavy	Size In.	Std.	Extra Heavy		List	, EACH Brass
2x2	\$1.05	\$1.30	5x4	\$3.70	\$4.60	Size	Right	Trap
3x2	1.70	2.15	5x5	3.70	4.60	Inlet	or Left	Screws Incl.
3x3	1.70	2.15	6x2	5.55	6.90	In.	Inlets	Inlets
4x2	1.70	2.15	6x3	5.55	6.90	2	\$1.00	\$1.50
4x3	1.70	2.15	6x4	5.55	6.90	3	1.25	2.00
4x4	1.70	2.15	6x5	5.55	6.90	4	1.50	2.50
5x2	3.70	4.60	6x6	5.55	6.90	5	2.00	3.00
5x3	3.70	4.60				6	2.50	3.50

Crosses

Tapped for Iron Pipe

		PRICE,	EACH	
Size Inches	Thread Inches	Stand- ard	Extra Heavy	0
2	11/4, 11/2, 2	\$1.15	\$1.40	
3	114, 112, 2	1.25	1.55	
5	114, 112, 2	1.40 2.25	1.70 2.80	
6	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	3.45	4.30	No. SP-123

Cast Iron Soil Pipe Fittings Upright Y Branches



		140. 3	DF-111				EACH
PRICE Std.	Extra Extra Heavy	Size In.	Price Std.	E, EACH Extra Heavy	Size Inlet In.	I. P. Tap- pings	Hub Inlets
1.85	\$2.30 2.30	5x4 5x5	\$4.90 5.50	\$6.15 6.90	3/8-1 11/4, 11/2	\$.60 1.25	
1.85	2.30	6x2 6x3	4.90	6.15 6.15	2 2½	1.25 1.50	\$1.00
3.10	3.85	6x4 6x5	5.50 6.15	6.90 7.70	3	1.50	1.25 1.50
3.70 4.35	4.60 5.40	6x6	7.35	9.20	5 6	••••	2.00
	Std. \$1.85 1.85 1.85 1.85 3.10 3.10 3.70	Std. Heavy \$1.85 \$2.30 1.85 2.30 1.85 2.30 1.85 2.30 3.10 3.85 3.10 3.85 3.70 4.60	PRICE, EACH Extra Size In. \$1.85 \$2.30 5x4 1.85 2.30 5x5 1.85 2.30 6x2 1.85 2.30 6x3 3.10 3.85 6x4 3.10 3.85 6x5 3.70 4.60 6x6	Std. Extra Heavy Heavy Extra Heavy Extra Heavy Extra Extr Extra Extr	PRICE, EACH Extra Std. Heavy In. Std. Heavy \$1.85 \$2.30 \$5x4 \$4.90 \$6.15 \$1.85 \$2.30 \$6x2 \$4.90 \$6.15 \$1.85 \$2.30 \$6x2 \$4.90 \$6.15 \$1.85 \$2.30 \$6x3 \$4.90 \$6.15 \$3.10 \$3.85 \$6x4 \$5.50 \$6.90 \$3.10 \$3.85 \$6x5 \$6.15 \$7.70 \$3.70 \$4.60 \$6x6 \$7.35 \$9.20	PRICE, EACH Size Extra Std. Heavy In. Std. Heavy In	PRICE, EACH Size Std. Heavy In. Heavy In. Std. Heavy In. Heavy In. Std. Heavy In. Std. Heavy In. Std. Heavy In. Heavy In. Heavy In. Std. Heavy In. Heavy In. Std. Heavy In.

Ventilating Branches

		PRICE,	EACH		PRICE	, EACH
	Size In.	Stand- ard	Extra Heavy	Size In.	Stand- ard	Extra Heavy
	2x2	\$.90	\$1.10	5x4	\$4.35	\$5.40
	3x2	1.15	1.40	5x5	4.35	5.40
	3x3	1.15	1.40	6x2	6.15	7.70
	4x2	1.15	1.40	6x3	6.15	7.70
	4x3	1.40	1.85	6x4	6.15	7.70
No. SP-116	4x4	1.40	1.85	6x5	6.15	7.70
	5x2	4.35	5.40	6x6	6.15	7.70
	5v3	4 35	5 40			

Tapped Ventilating Branches

		PRICE	PRICE, EACH		
Size Inches	Thread Inches	Stand- ard	Extra Heavy		
2	11/4, 11/2, 2	\$1.40	\$1.70		
3	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	2.00	2.45		
4	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	2.20	2.75	4-16-3	
5	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	2.80	3.50	No. SP-117	
6	11/4, 11/2, 2	3.40	4.25	110. 51 -117	





No. SP-119 Plain



No. SP-120 With Side Inlet

Extras Add to

Size In.	Price Std.	E, EACH Extra Heavy	Size In.	Price Std.	E, EACH Extra Heavy	Size Inlet In.	for Hub Inlet Each
2x2	\$1.25	\$1.55	5x5	\$4.95	\$6.15	2	\$1.00
3x2	1.65	2.00	6x2	6.15	7.70	3	1.25
3x3	1.65	2.00	6x3	6.15	7.70	4	1.50
4x2	1.80	2.15	6x4	6.15	7.70	5	2.00
4x3	1.80	2.15	6x5	6.15	7.70	6	2.50
4x4	1.80	2.15	6x6	6.15	7.70		
5x2	4.95	6.15	8	9.00	13.50		
5x3	4.95	6.15	10	16.20	22.65		
5x4	4.95	6.15	12x10	22.70	29.15		

No. SP-127

Tapped Sanitary Crosses

a.		PRICE,	EACH —
Size Inches	Thread Inches	Stand- ard	Extra Heavy
2	11/4, 11/2, 2	\$1.25	\$1.55
3	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	1.50	1.85
4	$1\frac{1}{4}$, $1\frac{1}{2}$, 2	1.75	2.15
5	11/4, 11/2, 2	2.75	3.40
6	$1\frac{1}{4}$ $1\frac{1}{2}$, 2	4.10	5.10

Cast Iron Soil Pipe Fittings Sanitary Crosses







No. SP-125

Size In.	Pric Std.	е, Еасн Ех. Ну.	Size In.	PRIC Std.	е, Еасн Ех. Ну.	Size Inlet In.	Extras Add to List Inlets Each
2x2	\$1.25	\$1.55	5x5	\$4.95	\$6.15	2	\$1.00
3x2	1.65	2.00	6x2	6.15	7.70	3	1.25
3x3	1.65	2.00	6x3	6.15	7.70	4	1.50
4x2	1.80	2.15	6x4	6.15	7.70	5	2.00
4x3	1.80	2.15	6x5	6.15	7.70	6	2.50
4x4	1.80	2.15	6x6	6.15	7.70		
5x2	4.95	6.15	8	9.00	13.50		
5x3	4.95	6.15	10	16.20	22.65	2.7	
5x4	4.95	6 15	12v10	22 70	29 15		

Offsets







No. SP-134 2-inch Vent



No. SP-135 2-inch Heel Inlet

Size In.	Std.	E, EACH	Size	PRICE	E, EACH—
		Ex. Hy.	In.	Std.	Ex. Hy
2x 2	\$.60	\$.75	4x20	\$2.60	\$4.30
2x 4	.60	.75	4x22	3.10	4.60
2x 6	.75	.90	4x24	3.70	5.05
2x 8	.75	.90	4x26	4.35	5.45
2x10	1.00	1.25	5x 2	2.45	3.05
2x12	1.15	1.40	5x 4	2.45	3.05
2x14	1.25	1.55	5x 6	2.65	3.40
2x16	1.35	1.70	5x 8	3.00	3.80
2x18	1.70	2.15	5x10	3.50	4.00
2x20	2.00	2.45	5x12	3.65	4.45
2x22	2.20	2.75	5x14	5.05	6.30
2x24	2.45	3.05	5x16	5.35	6.60
2x26	2.70	3.35	5x18	5.85	7.25
3x 2	.95	1.15	5x20	6.15	7.55
3x 4	1.00	1.25	5x22	6.30	7.85
3x 6	1.10	1.40	5x24	6.50	8.15
3x 8	1.25	1.55	5x26	6.75	8.45
3x10	1.50	1.85	6x 2	3.35	4.15
3x12	1.65	2.00	6x 4	3.35	4.15
3x14	1.90	2.30	6x 6	3.35	4.15
3x16	2.10	2.60	6x 8	3.70	4.60
3x18	2.30	2.90	6x10	4.30	5.40
3x20	2.75	3.40	6x12	4.95	6.15
3x22	3.10	3.85	6x14	6.15	7.70
3x24	3.70	4.60	6x16	6.75	8.30
3x26	4.15	5.20	6x18	7.10	8.75
4x 2	1.00	1.25	6x20	7.40	9.20
4x 4	1.00	1.25	6x22	7.70	9.65
4x 6	1.10	1.40	6x24	8.10	10.10
4x 8	1.25	1.55	6x26	8.45	10.55
4x10	1.50	1.85	7x 4	10.10	12.60
4x12	1.60	2.00	7x 8	12.30	15.40
4x14	1.90	2.45	8x 4	8.00	11.00
4x16	2.00	3.40	8x 6	9.60	12.00
4x18	2.30	3.55	8x 8	10.40	13.00

Add to above Lists for 2-inch Vent or Heel or Side Inlet..... each \$1.00

For odd lengths use next highest list.

Ir

Cast Iron Soil Pipe Fittings Increasing Offsets To Offset 6 Inches





No. SP-137 Hub and Spigot				No. SP-138 ed for Iron F	Pipe
Size Inches	PRICE, Hub and Spigot Ex. Hy.	Tapped for I. P. Ex. Hy.	Size Inches	Hub and Spigot Ex. Hy.	Tapped for I. P Ex. Hy
1½x4 2 x4 3 x4	\$2.00 2.80	\$2.10 2.25	4x5 4x6 6x8	\$3.00 3.25 4.00	

Eighth Bend Offsets



No.	SP-	139
-----	-----	-----

Size	PRIC	Е, ЕАСН	Size	Prici	Е, ЕАСН
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
2 _X 2	\$.60	\$.75	4x 8	\$1.25	\$1.55
2 _X 4	.60	.75	4x10	1.50	1.85
2 _X 6	.75	.90	4x12	1.60	2.00
2 _X 8	.75	.90	4x14	1.90	2.45
2 _x 10	1.00	1.25	4x16	2.00	3.40
$2_{\rm X}12$	1.15	1.40	4x18	2.30	3.55
2x14	1.25	1.55	4x20	2.60	4.30
2x16	1.35	1.70	4x22	3.10	4.60
2x18	1.70	2.15	4x24	3.70	5.05
2x20	2.00	2.45	5x 4	2.50	3.15
3x 2	.95	1.15	5x 6	2.85	3.55
3x 4	1.00	1.25	5x 8	3.15	3.95
3x 6	1.10	1.40	5x10	3.35	4.20
3x 8	1.25	1.55	5x12	3.70	4.65
3x10	1.50	1.85	5x14	5.25	6.55
3x12	1.60	2.00	6x 4	3.45	4.30
3x14	1.90	2.30	6x 6	3.45	4.30
3x16	2.10	2.60	6x 8	3.80	4.75
3x18	2.30	2.90	6x10	4.50	5.60
3x20	2.75	3.40	6x12	5.10	6.35
4x 2	1.00	1.25	6x14	6.40	8.00
4x 4	1.00	1.25	6x16	6.90	8.60
4x 6	1.10	1.40			40

Double Hubs

		PRICE,	ЕАСН		PRICE	. EACH
	Size In.	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
	2	\$.50	\$.60	6	\$1.85	\$2.45
	3	.65	.90	8	2.50	3.50
	4	.70	.90	10	3.90	4.85
No. SP-140	5	1.25	1.55			

Single Hubs

	PRICE,	Еасн	A SECTION	PRICE	, EACH	
Size In.	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy	
2	\$.40	\$.45	6	\$1.15	\$1.55	50
3	.50	.75	8	2.50	3.50	
4	.60	.75	10	3.80	4.85	
5	1.00	1.25	12	5.40	9.20	No. SP-141

Reducers

	~		E, EACH			EACH
30	Size In.	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
	3x2	\$.40	\$.45	6x3	\$.85	\$1.00
	4x2	.40	.45	6x4	.85	1.00
	4x3	.45	.55	6x5	.85	1.00
	5x2	.60	.75	8x6	2.50	4.25
No. SP-142	5x3	.60	.75	10x8	4.85	6.20
	5x4	.60	.75	12x10	6.76	10.80
	6x2	.60	.75	15x12	13.30	22.30

Cast Iron Soil Pipe Fittings

Plugs

		-				
A SHARL SHOWN	α.	PRICE,				EACH
	Size	Stand-	Extra	Size	Stand-	Extra
	Inches	ard	Heavy	Inches	ard	Heavy
The same of the sa	2	\$.25	\$.30	8	\$1.20	\$1.50
No. SP-145	3	.40	.45	10	2.15	3.25
	4	.45	.60	12	3.25	4.30
	5	.60	.75	15	5.60	7.00
	6	.75	.90	100		
		S	leeves			

cı:	PRICE, 1		s late to		, EACH	
Size	Stand- ard	Extra Heavy	Size Inches	Stand-	Extra	
-			Inches	ard	Heavy	
2	\$.60	\$.75	6	\$1.85	\$2.30	
3	.75	.90	8	2.50	3.50	
4	.75	.90	10	3.80	4.85	No. SP-146
5	1.25	1.25	12	5.40	9.20	

Thimbles

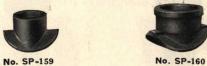
		PRICE	, EACH		PRICE	EACH
	Size Inches	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
	2	\$.60	\$.75	6	\$1.85	\$2.30
No. SP-148	3	.75	.90	8	2.50	3.50
110. 31 -140	4	.75	.90	10	3.80	4.85
	5	1.25	1.55	12	5.40	9.20

Vent Caps PRICE, EACH With Spigot Seron Size Inches 2 \$.60 3 .70 4 5 No. SP-150, Plain



	Fresh Air	Inlets		
	Size Inches	Stand- ard	- Price, Each -	Extra Heavy
	4 4x12	\$1.10 1.60		\$1.40
No. SP-156				

T Saddles and T Saddle Hubs



	T Sadd	les	Т	Saddle Hubs	
	PRICE.	Еасн		PRIC	E, EACH
Size Inches	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
2x2	\$.75	\$.95	5x4	\$1.00	\$1.25
3x2	.80	1.00	5x5	1.00	1.25
3x3	.80	1.00	6x2	1.00	1.25
4x2	.80	1.00	6x3	1.00	1.25
4x3	.90	1.10	6x4	1.00	1.25
4x4	.90	1.10	6x5	1.05	1.30
5x2	.90	1.10	6x6	1.15	1.40
5x3	.95	1.15		71.7	E

Y and Half Y Saddle Hubs





	ERM	
•	-	
Special All		
		4

No. SP-162, Half Y Hubs No. SP-161, Y Hubs

	PRICE,	EACH	The second second		E, EACH
Size Inches	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
2x2	\$.80	\$1.00	5x4	\$1.05	\$1.30
3x2	.90	1.10	5x5	1.05	1.30
3x3	.90	1.10	6x2	1.15	1.40
4x2	.90	1.10	6x3	1.15	1.40
4x3	.95	1.15	6x4	1.15	1.40
4x4	.95	1.15	6x5	1.25	1.55
5x2	.95	1.15	6x6	1.25	1.55
5x3	1.00	1.25			

Cast Iron Soil Pipe Fittings Extension Pieces



No. SP-163

	PRICE	ЕАСН		PRICE	E, EACH
Size	Stand-	Extra	Size	Stand-	Extra
Inches	ard	Heavy	Inches	ard	Heavy
2x 4	\$.60	\$.75	4x18	\$2.45	\$3.05
2x 6	.60	.75	4x20	2.95	3.70
2x 8	.75	.90	4x22	3.40	4.30
2x10	.90	1.10	4x24	3.70	4.60
2x12	1.00	1.25	5x 4	1.85	2.30
2x14	1.15	1.40	5x 6	1.85	2.30
2x16	1.25	1.55	5x 8	2.10	2.60
2x18	1.40	1.70	5x10	2.30	2.90
2x20	1.50	1.85	5x12	2.45	3.05
2x22	2.00	2.45	5x14	2.70	3.40
2x24	2.50	3.05	5x16	2.95	3.70
3x 4	1.00	1.25	5x18	3.20	4.00
3x 6	1.00	1.25	5x20	3.70	4.60
3x 8	1.10	1.40	5x22	4.20	5.25
3x10	1.25	1.55	5x24	4.70	5.85
3x12	1.50	1.85	6x 4	2.45	3.05
3x14	1.75	2.15	6x 6	2.45	3.05
3x16	1.95	2.45	6x 8	2.70	3.40
3x18	2.20	2.75	6x10	2.95	3.70
3x20	2.45	3.05	6x12	3.20	4.00
3x22	2.75	3.40	6x14	3.45	4.30
3x24	2.95	3.70	6x16	3.90	4.90
4x 4	1.25	1.55	6x18	4.45	5.55
4x 6	1.25	1.55	6x20	4.90	6.15
4x 8	1.40	1.70	6x22	5.50	6.90
4x10	1.50	1.85	6x24	6.15	7.70
4x12	1.70	2.00	6x30	7.85	9.80
4x14	1.85	2.30	6x36	8.00	10.00
4x16	2.15	2.60			

Increasers



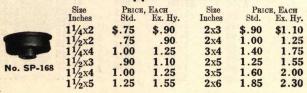




No. SP-167
Tapped for Iron Pipe

Size		E, EACH_	Size		CE, EACH
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
2x 3	\$.90	\$1.10	11/4x2	\$.60	\$.75
2x 4	.90	1.10	1½x2	.60	.75
2x 5	1.25	1.55	$1\frac{1}{2}x3$	1.40	1.70
2x 6	1.85	2.30	11/4×4	1.50	1.85
3x 4	1.85	2.30	1½x4	1.50	1.85
3x 5	1.85	2.30	$1\frac{1}{2}x5$	2.10	2.45
3x 6	1.85	2.30	2 x3	1.40	1.70
4x 5	1.85	2.30	2 x4	1.50	1.85
4x 6	1.85	2.30	2 x5	2.10	2.45
4x 8	1.85	2.30	2 x6	2.40	3.00
5x 6	2.45	3.05	3 x4	1.85	2.30
5x 8	2.45	3.05	3 x5	2.10	2.60
5x10	2.65	3.35	4 x5	2.50	3.10
6x 7	2.25	3.85	4 x6	2.90	3.60
6x 8	2.00	5.00	5 x6	3.30	4.10
6x10	3.40	4.25			
8x10	4.35	7.00			
8x12	7.35	9.20			
10x12	9.20	11.50			

Short Tapped Increasers



Cast Iron Soil Pipe Fittings

Long Plain Increasers for Calking



Size	Length		EACH	Size	Length	PRICE	, EACH
In.	In.	Std.	Ex. Hy.	In.	In.	Std.	Ex. Hy.
2x3	30	\$1.60	\$2.00	4x5	30	\$2.00	\$2.45
2x4	24	1.25	1.55	4x5	36	3.70	4 60
2x4	30	1.65	2.00	4x6	24	3.70	4 60
2x4	36	2.00	2.45	4x6	30	3.70	4.60
2x4	48	2.50	3.10	4x6	36	4.30	5.40
3x4	12	1.25	1.55	4x6	48	4.95	6.15
3x4	24	2.00	2.45	5x6	12	1.95	2.45
3x5	24	2.00	2.45	5x6	30	5.45	6.80
4x5	12	1.60	2.00	5x7	48	12.30	15.40
4x5	24	2.30	2.85				

Long Tapped Increasers



No. SP-170

			Tapped	PRICE	E, EACH—
Si	ze	Length	I.P. Thread	Stand-	Extra
Inc	ehes	Inches	Inches	ard	Heavy
11	2x4	24	11/2	\$2.25	\$2.75
2	x4	24	2	2.25	2.75
2	x4	30	2	2.40	3.00
2	x4	36	2	2.60	3.25
2	x4	48	2	3.00	3.75

Long Increasers for Calking



No. SP-171 Tapped One Side

No. SP-172 Tapped Both Sides

Size	Lgth.	Outlet	PRICE	, EACH	Size	Lgth.	Outlet	PRICE	EACH
In.	In.	Thd., In.	Std.	Ex. Hy.	In.	In.	Thd., In.	Std.	Ex. Hy.
2x4	24	$1\frac{1}{2}-2$	\$2.45	\$3.05	2x4	24	11/2	\$2.85	\$3.55
2x4	48	11/2	3.30	4.15	2x4	48	11/2	3.70	4.65
3x4	24	11/2	2.00	2.50	3x4	24	11/2	2.40	3.00
4x5	30	11/2-2	3.00	3.75	4x5	30	2	3.40	4.25
4x6	30	$\bar{2}$	3.40	4.25	4x6	48	2	5.45	6.80
4x6	36	11/2	3.60	4.50	5x6	30	2	4.30	5.35
4x6	48	2	5.05	6 30	5x6	36	2	4.60	5.75
5x6	30	2	3 90	4.85				/.	
5x6	36	2	4.20	5.25		11.3			



Size In.	Lgth. In.	Branch Thd., In.	Price Ea. Ex. Hy.
2x4	24	11/2	\$3.30
2x4	48	11/2	4.40
3x4	24	11/2	2.75
4x5	30	2	4.00
4x6	30	2	5.10

Connolly Tee Saddle Hubs

Size In.	PRICE Std.	Ех. Ну.	Size In.		Ех. Ну.	
2x2	\$.75	\$.95	5x4	\$1.00	\$1.25	
3x2	.80	1.00	5x5	1.00	1.25	
3x3	.80	1.00	6x2	1.00	1.25	
4x2	.80	1.00	6x3	1.00	1.25	
4x3	.90	1.10	6x4	1.00	1.25	
4x4	.90	1.10	6x5	1.05	1.30	
5x2	.90	1.10	6x6	1.15	1.40	
5x3	.95	1.15				



No. SP-177

Connolly Y Saddle Hubs



		-
No	SP-1	78

In.	Std. I	EACH Ex. Hy.	In.	Std.	Ex. Hy.
2x2	\$.80 \$	61.00	5x4	\$1.05	\$1.30
3x2	.90	1.10	5x5	1.05	1.30
3x3	.90	1.10	6x2	1.15	1.40
4x2	.90	1.10	6x3	1.15	1.40
4x3	.95	1.15	6x4	1.15	1.40
4x4	.95	1.15	6x5	1.25	1.55
5x2	.95	1.15	6x6	1.25	1.55
5x3	1.00	1.25			

Cast Iron Soil Pipe Fittings

Plain Pipe Bands



Size		, EACH	Size	PRICE	EACH
In.	Std.	Ex. Hy.	In.	Std.	Ex. Hy.
2	\$.90	\$1.10	5	\$ 1.35	\$1.70
3	1.00	1.25	6	1.60	2.00
4	1.15	1.40			

Pipe Bands with Inlet



No. SP-180 With T Branch



7	
No. SP-18 With Y Bra	

Size	PRICE, EACH		Size	PRICE, EACH	
In.	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
2x2	\$1.05	\$1.30	5x4	\$1.75	\$2.15
3x2	1.20	1.45	5x5	1.85	2.30
3x3	1.20	1.45	6x2	1.95	2.45
4x2	1.30	1.60	6x3	1.95	2.45
4x3	1.35	1.70	6x4	2.10	2.60
4x4	1.50	1.85	6x5	2.20	2.75
5x2	1.60	2.00	6x6	2.50	3.10
5 x3	1.60	2.00			

Plain Pipe Rests Tapped Pipe Rests PRICE, EACH PLAIN In. Std. Ex. Hy. Size In. 2 3 \$.30 \$.40 .40 .45 No. SP-183 .40 .45 .90 Size ...inches 4 6 1.15 Price, Std. ea. \$.75 \$1.45 2.25 "Ex. Hy." .95 .75 .95 1.75 2.25 3.25 No. SP-182 10 2.15

Floor Plates



PRICE, EACH				PRICE, EACH	
Size Inches	Stand- ard	Extra Heavy	Size Inches	Stand- ard	Extra Heavy
2	\$.40	\$.50	5	\$.80	\$1.00
3	.60	.75	6	1.00	1.25
4	.75	.90			

Tran Covers

-	Trap	Covers
Size	PRIC	E, EACH
In.	Standard	Extra Heavy
2	\$.25	\$.30
3	.30	.35
4	.40	.50
5	.45	.55
6	.55	.65
8	.90	1.05
10	1.30	1.60



Bar Strainers



Size Inches	Price Each	Size Inches	Price Each
2	\$.10	5	\$.25
3	.15	6	.30
4	.20		

Pipe Hooks

Size Inches	Price Each	Size Inches	Price Each	
2	\$.08	5	\$.16	No. SP-187
3	.11	6	.20	
4	.13			

Cast Iron Soil Pipe Fittings Plain Traps



No. SP-188 Full S Trap



No. SP-189 Three-quarter S Trap



No. SP-190 Half S Trap

Size	PRICE	E, EACH
In.	Std.	Ex. Hy.
2	\$.90	\$1.10
3	1.15	1.40
4	1.50	1.85
5	4.30	5.40
6	4.95	6.15
8	10.00	13.00

Traps with Top Vent



No. SP-191 Full S Trap



No. SP-192 Three-quarter S Trap

			Sales and		
Size Inches	PRICE S Std.	, Еасн Ех. Ну.	Size Inches	PRICE Std.	E, ЕАСН Ех. Ну.
2x2	\$1.20	\$1.50	5x4	\$4.00	\$5.00
3x2	1.35	1.70	5x5	4.00	5.00
3x3	1.35	1.70	6x2	4.80	6.00
4x2	2.20	2.75	6x3	4.80	6.00
4x3	2.20	2.75	6x4	4.80	6.00
4x4	2.20	2.75	6x5	4.80	6.00
5x2	4.00	5.00	6x6	4.80	6.00
5x3	4.00	5.00			



No. SP-193 Half S Trap

Traps with Handhole and Cover



No. SP-194 Full S Trap



No. SP-195 Three-quarter S Trap



No. SP-196 Half S Trap

Size	PRICE,	EACH-
In.	Std.	Ex. Hy.
2	\$1.25	\$1.55
3	1.85	2.30
4	2.50	3.10
5	4.95	6.15
6	5.55	6.90
8	10.75	13.75

Traps with Handhole and Cover and 2-inch Heel Inlet



No. SP-197 Full S Trap



No. SP-198 Three-quarter S Trap

Size	PRICE	EACH—
In.	Std.	Ex. Hy.
2	\$2.25	\$2.55
3	2.85	3.30
4	3.50	4.10
5	5.95	7.15
6	6.55	7.90



No. SP-199 Half S Trap

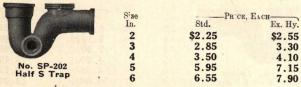
Cast Iron Soil Pipe Fittings

Traps with Handhole and Cover and 2-inch Side Inlet





No. SP-201 Three-quarter S Trap



Traps with Brass Trap Screw



No. SP-203 Full S Trap



No. SP-204 Three-quarter S Trap

Size Trap	Size Trap	PRICE,	EACH-
In.	Screw In.	Std.	Ex. Hy.
2	2	\$2.40	\$2.60
3	2	2.65	2.90
4	2	3.00	3.35
5	4	6.80	7.90
6	4	7.45	8.65
8	4	12.50	15.50



Traps with Top Vent and Brass Trap Screw



No. SP-206 Full S Trap



No. SP-207 Three-quarter S Trap

		7	
	460		
13			

0	
No.	SP-208
	S Tran

			1.31		
Size	PRICE,		Size	PRICE,	EACH
In.	Std.	Ex. Hy.	In.	Std.	Ex. Hy.
2x2	\$2.70	\$3.00	5x4	\$6.50	\$7.50
3x2	2.85	3.20	5x5	6.50	7.50
3x3	2.85	3.20	6x2	7.30	8.50
4x2	3.70	4.25	6x3	7.30	8.50
4x3	3.70	4.25	6x4	7.30	8.50
4x4	3.70	4.25	6x5	7.30	8.50
5x2	6.50	7.50	6x6	7.30	8.50
5x3	6.50	7.50			

Running Traps



No. SP-209 Plain



No. SP-210 with Handhole and Cover

Size		EACH	Size	PRICE,	
In.	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
2	\$.90	\$1.10	2	\$1.25	\$1.55
3	1.15	1.40	3	1.85	2.30
4	1.50	1.85	4	2.50	3.10
5	4.30	5.40	5	4.95	6.15
6	4.95	6.15	6	5.55	6.90
8	10.00	13.00	8	10.75	13.75

Cast Iron Soil Pipe Fittings **Running Traps**



No. SP-211 With Hub Vent



No. SP-212 With Double Hub Vent

Size	PRIC	E, EACH	Size	PRIC	E, EACH
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
2x2	\$1.20	\$1.50	2x2	\$1.60	\$2.00
3x2	1.35	1.70	3x2	1.80	2.25
3x3	1.35	1.70	3x3	1.80	2.25
4x2	2.20	2.75	4x2	2.60	3.25
4x3	2.20	2.75	4x3	2.60	3.25
4x4	2.20	2.75	4x4	2.60	3.25
5x2	4.00	5.00	5x2	4.80	6.00
5x3	4.00	5.00	5x3	4.80	6.00
5x4	4.00	5.00	5x4	4.80	6.00
5x5	4.00	5.00	5x5	4.80	6.00
6x2	4.80	6.00	6x2	5.60	7.00
6x3	4.80	6.00	6x3	5.60	7.00
6x4	4.80	6.00	6x4	5.60	7.00
6x5	4.80	6.00	6x5	5.60	7.00
6x6	4.80	6.00	6x6	5.60	7.00
8x4	11.60	14.50	8x4	12.80	16.00
8x6	12.00	15.00	8x6	14.00	17.00
8x8	12.00	15.00	8x8	14.00	17.00
10x6	19.45	25.90	10x6	21.60	28.10
10x8	23.00	29.00	12x6	29.35	36.70
12x6	29.35	36.70	12x8	31.10	38.90
15x6	67.00	84.00	15x15		150.00
15x8		130.00			

Running Traps



No. SP-213 With Y Branch and Vent



No. SP-214
With Half Y Branch

Size	PRICE	E, EACH	Size	PRIC	E. EACH
Inches	Std.	Ex. Hy.	Inches	Std.	Ex. Hy.
4x4	\$4.95	\$6.15	6x5	\$9.85	\$12.30
5x4	8.60	10.75	6x6	12.30	15.35
5x5	8.60	10.75	8x6	13.80	17.25
6x4	6.50	8.00			

Sisson Insertable Joints



In

	No. SP-253	
Size Inches	Std.	Ex. Hy.
2	\$1.40	\$1.50
3	1.50	1.70
4	1.80	2.00
5	2.10	2.30
6	2.60	2.80
8		10.00

With this joint a satisfactory connection can be made when a leak is discovered in a pipe or fitting already connected; or if a new fixture is to be connected with a line of pipes already in.

To install, cut out of soil pipe the length of fitting required to insert plus 11½ inches for this joint. Slip the lead ring over the pipe above and push the joint up as far as possible and drop this joint down. The lead ring will drop into joint and rest upon shoulders. Insert packing.

No. 181 Deep Seal P Traps Wisconsin Pattern



Depth of seal, 5 inches.

Size Inches	Price Each	Size Inches	Price Each
2	\$1.55	5	\$4.40
3	2.20	6	5.90
4	3.15		0.50

No. 182 Deep Seal Running Trap with Vent

Wisconsin Pattern

Extra Heavy

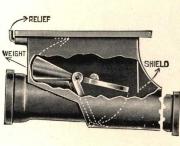


One vent on hub side of trap.

Depth of seal, 5 inches.

- A.	PRICE	EACH.
Size Inches	2-Inch Vent	4-Inch Vent
2 3	\$2.00 2.50	
4		\$3.50
5		5.50
6		6.50

No. 1 Marsh Back Water Valve



		Lgth.	Ht.
	Man-	End	from
Size	hole	to End	Hub
In.	In.	In.	Ctr., In.
4	6x10	21	71/2
6	7x13	24	10
8	9x15	29	1034
9	10x18	31	121/4
12	211/4x141/	4 36	15

Size In.	Price Each	for Each Threaded End
4	\$43.00	\$1.25
6	57.00	1.50
8	80.00	1.75
9	90.00	2.00
12	220.00	3.00

Extra

No. E-1 Palmer Sewer Valves



Wi	th	Han	dhole	and	Cove

Size In.	Price . Each	Size In.	Price Each
2	\$6.00	6	\$10.00
3	6.50	8	15.00
4	7.50	10	30.00
5	9.00	12	50.00

No. E-5 Palmer Old Style Valves For Cast Iron or Tile Pipe

	101	Cast Holl Of	a ne i ipe
Size	Price	Size	Price
Inches	Each	Inches	Each
2	\$1.00	9	\$6.00
3	1.20	10	15.00
4	1.60	12	20.00
5	2.20	15	25.00
S	2.40	18	40.00
8	3.80	0.0	



Blake Y Fittings



With So-easy-to-remove Cover

Size inches	2	4
Price, Standardeach	\$2.70	\$5.50
" Extra Heavy "		5.60

With Brass Screw Plug Cover

Sizeinches	2	4
Price, Standard each	\$2.70	\$5.50
" Extra Heavy "	2.80	5.60

No. K-1790 Blake Economy Stack Fittings



All are extra heavy but made to fit standard pipe also.

Cleanout plugs are iron pipe thread, heavy and have large square heads. Openings are suitable for test plugs.



Front Cleanout

		ccst pr	ugs.		
Size Inches	Cleanout	Price Each	Size Inches	Cleanout	Price Each
2	Front	\$2.40	4	R. H.	\$4.90
4	Front	4.90	2	L. H.	2.40
2	R. H.	2.40	4	L. H.	4.90

No. K-1844 Blake Cleanout or Test Tees

With Brass Screw Plug Cover



Also furnished with brass screw flange cover.

This test tee will take a 90 degree testing plug. A test tee can be calked in on each story and a test made on each floor separately.

		PRICE,	EACH			
		Brass	WITH	WITH BRASS		
FE F 14	PLUC	COVER —	FLANGE	COVER		
Size	Extra		Extra			
Inches	Heavy	Standard	Heavy	Standard		
2	\$1.80	\$1.80	\$1.90	\$1.90		
3	2.80	2.80	2.94	2.94		
4	3.10	3.10	3.26	3.26		
5	7.70	7.70	8.08	8.08		
6	9.50	9.50	9.98	9.98		

No. K-1686 Blake Insertable Joints



For Durham Work

Tapinches	11/4	11/2	2	2	4
Tapinches Hubinches	2	2	2	4	4

Blake Deep Seal Floor Drains

Without Back Water Valve Open Pattern Trap Spigot End for Soil Pipe



No.	Connection Si	ZE, IN.	DEPTH, Over All	In. Seal	Cast Iron Cover	Fin. Brass Cover	N. P. Brass Cover
K-310	2	81/2	101/2	4	\$4.00	\$10.00	\$12.00
K-310	3	101/2	13	4	10.00	20.50	23.00
K-310	4	121/2	15	4	13.25	31.00	34.00
Can be	furr	nished	with tap	ped	outlet for	iron pipe.	

Blake Deep Seal Floor Drains



With Back Water Valve Open Pattern Trap Spigot End for Soil Pipe

					PRICE, EACH			
		SIZE, IN.			Cast	Fin.	N. P.	
	Con	nec-	DEPTH,	In.	Iron	Brass	Brass	
No.	tio	n Top	Over All	Seal	Cover	Cover	Cover	
K-310	2	81/2	101/2	4	\$6.30	\$12.30	\$14.00	
K-325	. 3	101/2	13	4	13.30	23.80	26.20	
K-335	4	121/2	15	4	17.40	34.90	38.00	
Can	be fu	rnished	with tap	ped	outlet for	iron pir	e.	

No. 200A Josam Double Drainage Trap and Drain

For shower, urinal and floor drains for concrete, tile, marble or any composition floors. Has brass strainer, and collar which screws into body of drain and is adjustable to suit floor level. If with flashing clamping device as shown, add \$1.00 to list.



No. 100 Josam Double Drainage Floor or Shower Drains

An all brass drain designed for use in cement, tile, terrazzo. mosaic, mastic or other composition floors. Does not have adjustable strainer.

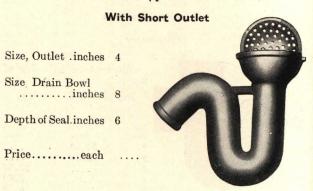
For use in residences, hotels, schools, institutions and public buildings where lack of floor depth will not permit use of trap.

	No.	Strainer In.	Outlet In.	Price Each
ACCUPANT ATTEMPT	100	2	2	\$6.50
NOSAMI.	101	3	2	7.00
	102	3	3	8.00
	103	4	3	9.50
	104	5	4	11.00

Made with either male or female threaded outlet.



No. 254 Ohio 3/4 S Floor Drains



No. 229 Ohio Cellar Drains



With P trap. Outlet, 4 inches. Drain bowl, 8 inches. Depth seal, 6 inches.

Price, No. 229				each	
Cast	Iron	Bell	Trap	Cesspools	

With Side Outlet and Hinger Strainer



No	1	2	3
Sizeinches	6x6	9x9	13x13
Outlet inches	2	3	4
Weight	Light	Light	Heavy
Price each	\$3.00	\$6.00	\$12.00
Tapping For Iron PipeAdd	1.00	1.40	2.00

Cast Iron Cesspools with Bell Trap



	No. 200	
W	ith Loose S	trainer
Siz	e	inches
Ou	tlet	"
Price	Loose, Std.	each
"	" Ex. Hy.	"
"	Hinged, Std.	"

" Loose, Ex. Hy. . . . "
If with Threaded Outlet add "



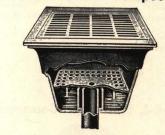
		With Hinged Strain					
6x6	9x9	12x12	12x12	13x13	13x13		
	3	3	4	3	4		
\$.75	\$1.00	\$1.35	\$2.00	\$2.20	\$2.40		
1.15	1.40		3.40		4.00		
	1.15	1.80	2.60	2.80	3.00		
1.20	1.55		3.60		4.40		
.40	. 60	.60	.80	.60	.80		

No. 230 Extra Heavy Cesspools With Bell Trap and Grating



Sizeinches Depth	5	4	10	10
Price, Plain each "Galvanized "	\$3.00	\$3 00	\$3 75	\$4 E0

No. 251 Stable Cesspools



21	No. 1		No 2		
Size Inches	Outlet for Soil Pipe, In.	Price Each	Tapped for I.P., In.	Price Each	
12x12	2	\$3.75	2	\$3.75	
14x14	2	4.00	$\overline{2}$	4.00	
16x16	2	4.50	2	4.50	
16x16	4	4.50	4	5.00	

Slop Sinks and Hoppers



No. K-1135 Blake Extra Heavy Garage Drains



Can be furnished without vent, or one or two vent openings, but two vents will be shipped unless otherwise ordered. Made extra heavy in small and large pattern, and to receive 4-inch extra heavy pipe. For use in private and public garages, etc. Vent connections are for 2-inch extra heavy pipe. Water seal on small pattern is 6 inches, large pattern, 9 inches.

Top Inches	Depth	Strainer	Water Seal	Outlet	Vent	Price,	Without Bell and
Inches	Inches	Inches	Inches	Inches	Inches	Complete	Bucket
16	18	145/8	6	4	2	\$62.00	\$48.00
21	30	19	9	4	2	102.00	78.00

No. K-1104 Blake Round Ice Box Drains



Has loose cover. Tapped for $\frac{3}{4}$, 1, $\frac{11}{4}$ or $\frac{11}{2}$ -inch iron pipe. Measures 8 inches across top, $\frac{21}{2}$ inches in total depth. Weight, $\frac{41}{2}$ pounds. Black-dipped, for $\frac{11}{4}$ -inch I. P. furnished unless otherwise specified

Styleeach	Black-Dipped \$.85	Aluminum-Dipped \$1.00	Galv. \$1.40
-----------	--------------------	------------------------	-----------------

No. K-1108 Blake Oblong Ice Box Drains

Has loose strainer. Is 10 inches long. For ¾, 1, 1¼ or 1½-inch iron pipe. Depth 2½ inches. Unless specified, black-dipped for 1¼-inch I. P. shipped.



Style	Black-Dipped	Aluminum-Dipped	Galv.
Priceeach	\$.90	\$1.05	\$1.55

Blake Cast Iron Rings and Covers

For Cistern or Garage Drains



These rings and covers are heavy, with covers reinforced underneath to stand heavy trucks and cars passing over them. The covers fit flush into the ring. The rings have prongs to go over outside of bell of tile pipe, while a rib around inside bottom fits on the inside of bell.

No.	For Pipe Size, In.	Diam. Over All Inches	Approx. Ship. Weight, Lbs.	Price Each
K-1700	12	15	17	\$2.50
K-1700	15	18	24	4.25
K-1700	18	21	32	7.00
K-1700	20	24	44	9.00
K-1700	24	28	88	14.00

No. K-2116 Blake Special C. I. Closet Waste Fittings

With 2-Inch Slip Collar Extra Heavy



TA	PPINGS			
No.	Size Inches	Length Inches	Weight Pounds	Price Each
2 2 2	11/2	12	14	\$3.40
2	11/2	18	17	3.70
2	11/2	24	20	4.40
1	11/2	12	. 14	3.10
1	11/2	18	17	3.50
1	$1\frac{1}{2}$	24	20	4.10
		12	13	2.80
		18	16	3.10
		24	19	3.80

Josam Double Drainage Drains With Clamping Ring and Eccentric Clamps

for Showers, Urinals and Floors



Designed for shower, urinal and floor installations where specifications call for the use of flashing material to prevent seepage caused by expansion or contraction.

The Josam eccentric nut clamp locks the flashing ring securely upon any thickness of ma-

terial without the use of screws.

Constructed of cast iron with adjustable screw-in type of brass strainer. Furnished with nickel-plated or polished brass finish.

Made with either male or female threaded outlet

No	300C		302C
Outletinches	2	3	4
Priceeach	\$7.00	9.00	10.50

No. 302B Josam Swimming Pool **Overflow Drains**



For use as main outlet or drip floor drain. When set in side wall of pool will make an overflow drain.

Has brass rectangular frame and removable brass strainer with nickel-plated or polished finish.

Body is cast iron with flange and clamping ring for waterproofing membrane. Has adjustable collar to permit for variations in thickness. Drain furnished with male or female threaded outlet.

 Strainer
 inches
 6½x9½

 Outlet, Iron Pipe
 " 4

 Price, No. 302B
 each \$14.00

Galvanized or all brass body can be furnished at added

No. 400S Josam Roof Drains No Flashing Required



Designed to apply to either concrete or wood roof deck.

Roofing felts are joined to drain with an improved type clamping ring which has four adjustable bronze clamping posts with brass set screws.

A perfectly water-tight connection is made between roofing felts and body of drain.

Has removable combined sediment cup and strainer.

Threaded outlet.

Outlet Inches	Price Each	Outlet Inches	Price Each	Outlet Inches	Price Each
2	\$14.00	4	\$14.00	6	\$18.00
3	14.00	5	16.00	8	26.00

Josam Expansion Joint Connection With Brass Sleeve



Can be used with any Josam drain. Body is of heavy cast iron. Constructed so as to allow expansion or contraction of 1½ inches each way in the line, or a total variance of 3 inches.

Heavy-gauge brass sleeve has a smooth, non-corrosive bearing surface which works freely against a graphite-saturated, round, braided, pure asbestos packing ring.

Made for threaded pipe installations

Size	Price	Size	Price
Inches	Each	Inches	Each
3	\$4.50	6	\$7.00
4	5.00	8	10.00
5	6.00		

No. 2000 Blake Cast Iron Closet Bends With 2-inch Deep Slip Collar



These bends can be furnished with right or left hand tapping only or both sides. When ordering specify right or left hand tapping. In description, short inlet means 4 inches high from center of bend and long inlet is 5 inches high.

Size			PRICE, EACH			
In.		Da	scripti	on	Short Inlet	Long Inlet
4x12			Plair		\$2.40	\$2.50
4x16		A	"		2.50	2.70
4x12	Tapped	2	Hole	Opposite	2.70	2.80
4x16	"	2	u	~ "	2.80	3.00
4x12 4x16	"	2	"	Offset	2.70	2.80
4x12	u	2	"		2.80	3.00
4x16	"	2	"	with Y Tapping	2.70	2.80
		-		1	2.80	3.00

Price includes 2-inch iron slip collar with each bend.

Blake Iron Slip Collars For Closet Bends





No. 2050, Notched Top

No. 2065, Slotted Top

Can be furnished with notched or slotted top as shown or with screw holes.

Depth, In.	Price, Each	Depth, In.	Price, Each
2	\$.45	4	\$.70
21/2	.50	5	1.00
3	.60	6	1.30

Type 6-L Holt Roof Connections



For wood or concrete roof-deck. Has internal expansion joint, heavy cast iron easing with extending flange to support it on roof deck, 16-ounce copper flashing flange and cast iron globe strainer. Has brass locking dogs for roofs over 3 inches thick. For roof under 3 inches a sliding lock collar is furnished.

Calked lead joint is made between leader pipe and connection

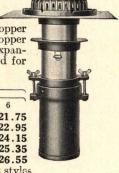
Size ln.	Size Opening in Roof In.	Price Each	Add for Cast Brass or Aluminum Strainer	Size In.	Size Opening in Roof In.	Price Each	Add for Cast Brass or Aluminum Strainer
3	$6\frac{1}{2}$	\$16.50	\$1.00	6	91/2	\$23.25	\$2.00
4	71/2	18.00	1.50	8	111/2	34.25	2.50
5	81/2	19.75	1.50			·	

Type 1 Holt Roof Connections

For wood or concrete roof-deck. Has cast iron strainer, three guard cast iron gravel stop flange-ring,

strainer attachment, 16-ounce copper flashing, No. 13 S. W. G. seamless copper pipe with roof lock fittings and expansion joint with spigot end or tapped for

iron pipe.
Roof Length
Thick- Connec-PRICE, EACH
FOR DRAIN PIPE, INCHES3
4
5 ness tion Inches Inches 3 1 10 \$14.00 \$15.00 \$18.25 \$21.75 12 14 60 15.70 19.15 14 15.20 16.40 20.05 1 - 322.95 3 - 524.15 16 15.80 17.10 25.35 20.95 16.40 17.80 21.85 26.55 18 These connections made in various styles.



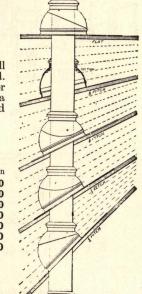
Bullard Adjustable Roof Flanges



Any one flash will adjust to all roof pitches. No solder is required.
Made of a two-piece steel or

copper ball joint, a flange and a lead collar made of galvanized sheet iron or copper.

Size Inches	Price per Dozen
11/4	\$30.00
11/2	30.00
2	34.00
3	38.00
4	40.00
5	57.00
6	100.00



Midland Lead Roof Flashings



Sectional View

This flashing is made entirely of lead in one piece. The neck and base are molded at the same time.

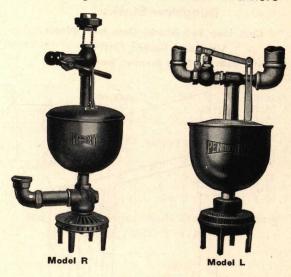
The base is larger than usual, is heavier than 4pound sheet lead, permitting two rows of shingles to cover the upper part. The angle flashing will fit any

pitch roof.

The equipment for producing this flashing has been fully protected by United States letters patent.

Size.....in. 1 1/4 11/2 2 21/2 3 4 5 6 Price....ea. \$1.25 1.30 1.50 1.60 1.75 2.00 3.00 4.30

Penberthy Automatic Cellar Drainers



Model R

	Work			MAXIM	UM NE	т Сара	CITIES	FROM SU	MP AT-		
	ing Head			10 т	o 100 F	OUNDS	WATE	R PRESSI	URE		Price
No.	Ft.	10	15	20	25	30	40	60	80	100	Each
1	3	80	210	300	340	400	510	700	720	700	\$25.00
1	6		90	140	240	300	390	570	670	690	
1	9			90	150	210	330	480	620	660	25.00
1	12				100	150	220	390	550	630	25.00
1	15					90	190	300	450	600	25.00
1	18						120	250	320	550	25.00
2	3	190	390	550	620	750	910	1180	1240	1220	40.00
2	6		210	340	420	600	750	1020	1140	1200	40.00
2	9			210	300	380	540	900	1090	1150	40.00
2	12				210	300	420	780	1020	1110	40.00
2	15					210	370	570	940	1050	40.00
2	18						300	510	850	970	40.00

No. 1 has ½-inch supply and 1-inch discharge; No. 2 has 3/4-inch supply and 11/4-inch discharge.

The Model R drainer requires 5-pound water pressure or more for each 1 foot of elevation while the low pressure drainer will work on 2-pound to 4-pound per foot of elevation which can be supplied.

Model L

	Supply	Suc- tion	Work- ing	ACTU	AL CAPACI	TY WILL E	LEVATE	
	Pipe	& Dis-	Head			PER HOUR		Price
No.	In.	charge	Ft.	25	40	60	80	Each
3	1	11/2	3	660	1100	1440	1650	\$55.00
3	1	11/2	6	520	860	1230	1440	55.00
3	1	11/2	9		720	1050	1320	55.00
3	1	11/4	12			840	1040	55.00
3	1	11/2	18				760	55.00
4	11/4	2	3	960	1600	2020	2400	80.00
4	11/4	2	6	760	1240	1880	1980	80.00
4	11/4		9		1040	1600	1800	80.00
4	11/4	2	12			1280	1440	80.00
4	11/4	2	18				1050	80.00
5	11/2	21/2	3	1280	2100	2700	3200	110.00
5	11/2	21/2	6	1000	1620	2300	2820	110.00
5	11/2	21/2	9		1260	1960	2600	110.00
5	11/2	$2\frac{1}{2}$	12			1560	2060	110.00
5	$1\frac{1}{2}$	$2\frac{1}{2}$	18				1500	110.00

The above capacities are the actual capacities of water taken from sump and not the combined discharge of operating and drainage water. For higher elevations than shown above, special drainers can be made.

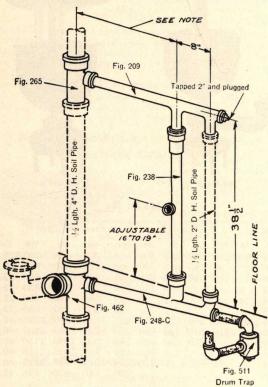
Non-automatic

Capacities, pipe connections, etc., same as other models

No	1	2	3	4	5
Price each	\$15.00	25.00	35.00	50.00	70.00

No. 105 Stringer Extra Heavy Cast Iron **Bungalow Stacks**

Cast Iron Soil Stack-Cast Iron Waste Vent and Revent Fittings Bath and Basin Revented Separately



No. 105 Stack



Plan View of Fixtures

Schedule for No. 105 Stack

No.	Quan- tity	Description	Size Inches	Price Each
209	1	Top Revent	2	\$3.70
238	1	Basin Tee with 11/4 or 11/2-Inch Inlet.	2	3.20
2480	1	Bottom Waste with 11/2 or 2-Inch Inlet	2	3.90
265	1	End Revent	4x2	2.00
462	1	Closet Tee	4x2	3.70
Pric	e, N	o. 105, Complete	each	16.50

When ordering, state whether closet tees are wanted with right or left hand inlet. Illustration shows right hand.

To complete stock No. 105, add the following material: 1 half length 4-inch E.H.D.H. soil pipe;

1 drum tap and closet bend.

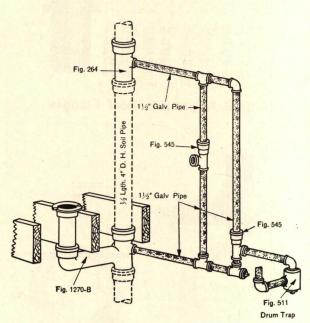
Remainder of stack made up of staple soil pipe fittings, nipples, etc., not furnished with stack.

Note.—Fig. No. 248-C Bottom Waste Fitting and Fig. No. 209 Top Revent Fittings are made long enough to give a maximum distance between center of water closet and center of lavatory of 27 inches—being scored, they may be cut off to meet any required measurement less than 27 inches.

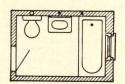
No. 108 Stringer Extra Heavy Cast Iron **Bungalow Stacks**

Cast Iron Soil Stack-Screwed Pipe Waste Vent and Revent Fittings

Closet Bend Below the Joist



No. 108 Stack



Plan View of Fixtures

Schedule for No. 108 Stack

No.	Quan- tity	Description	Size Inches	Price Each
264	1	End Revent	4x1½	\$2 00
545	1	Hub Drainage Y with 11/4 or 11/2-		
		Inch Inlet	$1\frac{1}{2}$	1 10
545	1	Hub Drainage Y	11/2	1.10
1270B	1	Santebend with Hub Inlet for 14		
		Inches Roughing-in	4x11/2	6.00
Price,	No.	108, Complete	. each	10.20

To complete the schedule, add the following material for No. 108 Stack:

half length 4-inch E.H.D.H. soil pipe.

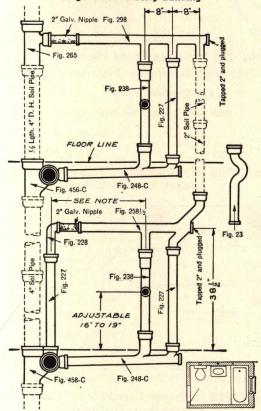
1 No. 511, $4x4x1\frac{1}{2}$ -inch drum trap. 1 closet collar.

Remainder of stack made up of staple soil pipe, galvanized pipe and fittings not furnished with stack.

Note.—Stringer San-Te-Bends will also fit standard or medium pipe.

No. 116 Stringer Extra Heavy Cast Iron Soil Stacks

Cast Iron Soil Stack—Cast Iron Waste Vent and Revent Fittings Single Stack-2 Story Building



Plan View of Fixtures

Quan-		Size	Price	Total Price
tity	Description	Inches	Each	Each
1	Closet Vent Ell	2	\$1.30	\$1.30
2	Basin Tee, with 11/4 or 11/2-			
		2	3 20	6.40
2		-	0.20	0.40
		2	3.90	7.80
1	First Floor Revent	2	4.70	4.70
1	End Revent Fitting	4x2	2.00	2.00
1		2	3.70	3.70
1	Closet Tee	4	4.20	4.20
1	Closet Tee	4	5.20	5.20
, No.	116, Complete		.each	35.30
, No.	231, 2-Inch Jumpover, Extra		.each	1.75
en or	dering, state whether closet tee	sare	wanted	with
	tity 1 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Closet Vent Ell. Basin Tee, with 1¼ or 1½— Inch Inlet. Bath Waste, 1½ or 2-Inch Inlet. First Floor Revent. End Revent Fitting. Top Floor Revent. Closet Tee. No. 116, Complete. No. 231, 2-Inch Jumpover, Extra.	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

right or left hand inlet. Illustration shows right hand.
To complete the schedule, add the following material: 3
half lengths 2-inch E.H.D.H. soil pipe;

2 drum traps and closet bends;

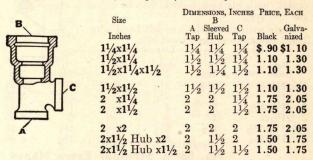
2 galvanized nipples;

intermediate 2 and 4-inch E.H. soil pipe.
Bath and closet vents in the Fiat system are lengths of 2-inch E.H.D.H. soil pipe furnished and cut exactly in half by the plumber. No further cutting is required. Note.—No. 248C Bottom Waste Fitting is made long

enough to give a maximum distance between center of water closet and center of lavatory of 28 inches-being scored, it may be cut off to meet any required measurement less the 28 inches. After the distance between center of closet and center of lavatory is determined, 2-inch galvanized stock nipples are used in connection with top vent fittings. If a nipple 5½ inches long is used on the first floor and a nipple 1034 inches long on the second floor, the closet and lavatories rough-in 28 inches apart. If close nipples are used on the first floor and a 5-inch nipple on the second floor, the closets and lavatories rough-in 24 inches apart. The use of interpodiate longth nipples being a part. mediate length nipples brings any desired measurement between 24 and 28 inches.

No. 545 Stringer Hub Drainage 90° Y-Tee Fittings

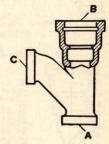
Black fittings regularly furnished tarred. Can be furnished plain untarred, if required, at same price.



No. 546 Stringer Hub Drainage Long Sweep 90° T Y Fittings

Black fittings regularly furnished arred. Can be furnished plain untarred. tarred, if required, at same price.

—— Отми		HES-	
A	Sleeved	C	_
The second second		Tap	C.
	1/2	11/2	1
AND THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		11/2	
2	2	2	
	PRICE, EAC		
Black		Galva- nized	
\$1.10)	\$1.30	
1.75		2.05	
1.75		2.05	
	A Tap 11/2 2 2 2 2 Black \$1.10 1.75	$\begin{array}{ccc} A & B \\ Sleeved \\ Tap & Hub \\ 1\frac{1}{2} & 1\frac{1}{2} \\ 2 & 2 \\ 2 & 2 \end{array}$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$



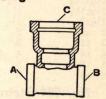
No. 550 Stringer Hub Drainage 90° Double Y-Tee Fittings

Black fittings regularly furnished tarred. Can be furnished plain untarred, if required, at same price.

		DIM	IENSIONS,	INCHI	ES	
R			В		PRICE.	EACH
-	Size	A	Sleeved	C	1	Galva-
	Inches	Tap	Hub	Tap	Black	nized
A B	11/2×11/4	11/2	11/2	11/4	\$1.50	\$1.75
	1½x1½	11/2	$1\frac{1}{2}$	11/2	1.50	1.75
C. The Total	2 x11/4	2	2	11/4	2.20	2.60
	2 x1½	2	2	11/2	2.20	2.60
7	2 x2	2	2	2	2.20	2.60
A	2 x1½ Hub x2	2	11/2	2	2.20	2.60
		2	1½	11/2	2.20	2.60

No. 570 Stringer Hub Drainage Bath Vent Tee Fittings

Black fittings regularly furnished Can be furnished plain untarred. tarred, if required, at same price.



	DIM	ENSIONS, IN	CHES		
0.			C	PRICE	, EACH
Size	A	В	Sleeved		Galva-
Inches	Tap	Tap	Hub	Black	nized
1½x1½x1½	11/2	11/2	11/2	\$1.30	\$1.85
$2 x1\frac{1}{2}x1\frac{1}{2}$	2	11/2	11/2	1.30	1.85
$2 \times 2 \times 11/2$	2	2	11/2	1.30	1.85
2 x2 x2	2	2	2	1.50	2.15
$3 x1\frac{1}{2}x3$	3	11/2	3	3.30	4.10
3 x2 x3	3	2	. 3	3.30	4.10

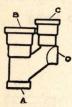
No. 581 Stringer Extra Heavy Cast Iron Vented Sink Tees

With Tapped Inlet

For screwed pipe. Tapped on bottom outlet, with Stringer sleeved hub on top of run and vent.

Made with either right or left hand inlet. Illustration shows right hand inlet.

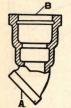
	Ro Filmer	DIMENSIO	NS, INCHES —		Transfer of
Size Inches	A Tap	Sleeved Hub	Sleeved Hub	D Tap	Price Each
1½x1½ 2 x1½	$\frac{11/2}{2}$	11/2	11/2	11/2	\$2.50
2 x1½x1½ 2 x1½x2	2 2	$\frac{1}{2}$	$\frac{1\frac{1}{2}}{1\frac{1}{2}}$	$\frac{11/2}{11/2}$	2.50 2.50
21/2×11/2×11/2	21/2	21/2	$\frac{11/2}{11/2}$	$\frac{2}{1\frac{1}{2}}$	2.50 3.50
3 x1½x1½	3	3	11/2	11/2	4.00



No. 5811/4 Stringer Extra Heavy Cast Iron Vented Sink Tees With End Tapped Inlet

For screwed pipe. Tapped 2 inches on bottom outlet, with Stringer sleeved hub on top of run and vent.

	I	DIMENSI	ONS. INCHES	3	
Size	A B		C Sleeved		Price
	Tap	Hub	Hub	Tap	Each
$2x1\frac{1}{2}x1\frac{1}{2}$	2	2	$1\frac{1}{2}$	11/2	\$2.50

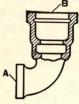


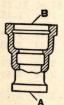
No. 567 Stringer Hub Drainage 45° Elbow Fittings

O.	DIMENS	IONS, INCHES	PRICE	, EACH
Size Inches	Tap	B Sleeved Hub	Black	Galva- nized
11/4×11/4	11/4	11/4	\$ 90	\$1.10
1½x1½ 2 x1½	2 2	11/2	1 00	1.20
2 x2	2	2	1.30	1.60



STATE OF	DIMENS	ions, Inches	PRICE	, EACH
Size	A	B Sleeved		Galva-
Inches	Tap	Hub	Black	nized
11/4	11/4	11/4	\$.65	\$.75
11/2	11/2	11/2	.70	.80
2	2	2	1.05	1.20





No. 569 Stringer Hub Drainage Vent Hub **Fittings**

Black fittings regularly furnished tarred. Can be furnished plain untarred, if required, at same price.

Size DIMEN		ions, Inches	Price	E, EACH
Inches	Tap	B Sleeved Hub	Black	Galva- nized
11/4×11/4	11/4	11/4	\$.80	\$1.00
11/2×11/2	11/2	$1\frac{1}{2}$.80	1.00
1½x2 2 x2	2 2	$\frac{2}{2}$	1.00	1.20
3 x3	3	3	1.00	1.30
4 x4	4	4	2.50	2.20 3.50
5 x5	5	5	4.50	6.00
6 x6	6	6	6.30	8 30

No. 584 Stringer Extra Heavy Cast Iron Top Vent Fittings

For single sink stacks with screwed

pipe wast	e and ve	ent.				
Size	A	ENSIONS, IN B	C,	Price		7-0
Inches 11/2x11/2	Tap 11/2	Tap 11/2	Tap 11/2	Each \$1.90	4	-
2 x11/2	2	11/2	2	1.90	Á	. 6
2 x2	2	2	2	1.90		



No. 232 Stringer Extra Heavy Cast Iron Jumpover Fittings For Screwed Pipe

One End Screwed Hub-Other End Tapped

Sleeved Hub (Top)	inches	11/2	2
Tap (Bottom)	inches	11/	9
Price, No. 232	each	\$1.75	1.75

No. 233 Stringer Extra Heavy Cast Iron Jumpover Fittings

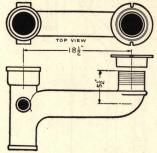
For Screwed Pipe

Both Ends Tapped Iron Pipe

Size	inches	2
Tap (Top and Bottom)	inches	2
Price, No. 233	each	1 75



No. 1216B Stringer Extra Heavy Cast Iron Closet San-Te-Bends



Stringer 4-inch long inlet closet San-Te-Bend with two 1½-inch tapped side inlets, one on each side of tee. Regularly furnished with 2inch collar.

For closets roughing-in 14

or 14½ inches.

May be plugged for right or left hand inlet.

If wanted with 2-inch tapped side inlets order No. 1216C

Stringer San-Te-Bends will fit standard or medium pipe.inches

Size . . Price, No. 1216B, with Two 1½-Inch Tappings. each \$6.00 Price, No. 1216C, with Two 2-Inch Tappings. each 6.00

No. 1221B Stringer Extra Heavy Cast Iron Closet San-Te-Bends

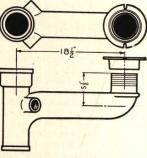
Stringer 4-inch long inlet closet San-Te-Bend with two 1½-inch 45° tapped side inlets, one on each side of tee.

Regularly furnished with 2-inch collar.

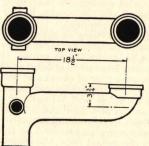
For closets roughing-in 14 or 14½ inches.

May be plugged for right or left hand inlet.

Stringer San-Te-Bend will fit standard or medium pipe. Size. Price, No. 1221B.....each \$6.00



No. 1270B Stringer Extra Heavy Cast Iron Closet San-Te-Bends



Size..

Stringer 4-inch San-Te-Bend with low hub inlet and two 11/2-inch tapped side inlets, one on each side of tee

For closets roughing-in 14

or 14½ inches.

May be plugged for right or left hand inlet.

If wanted with 2-inch tapped side inlets order No. 1270C

Stringer San-Te-Bends will fit standard or medium pipe. ····inches Price, No. 1270B, with Two 1½-Inch Tappings . each \$6.00 Price, No. 1270C, with Two 2-Inch Tappings . each 6.00

Cast Iron Drainage Fittings

Screwed for Wrought Pipe



These fittings are made with shoulder, and being the same diameter as the inside of the pipe, a continuous passage is made when the pipe is screwed up to the shoulder, thus allowing no place for solid matter to collect and clog the pipe. Recessed to allow easy access of pipe. Reg-ularly furnished asphalt-

ed but may be furnished plain or galvanized. Furnished also in malleable iron or brass at special price. May be furnished with one or more end for hub connections for cast pipe at special prices.

Screwed for Wrought Pipe Elbows with Outlet



No. D-128 Elbow with Side Outlet Size Inches Dimensions, A Inches

41/8

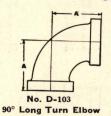
Outlets 2

Cast Iron Drainage Fittings



with Heel Outlet PRICE, EACH-Black Galv. \$3.85 \$6.75

Long Turn Elbows





45° Long Turn Elbow

Size		SIONS, A	PRICE	EACH————————————————————————————————————
Inches	90°	45°	Black	Galv.
11/4	23/4	11/2	\$.35	\$.60
11/2	37/16	17/8	.42	.72
2	37/8	$2\frac{1}{4}$.65	1.15
21/2	43/4		1.40	2.45
3	514	3	1.75	3.10
5	61/8	31/2	2.75	4.80
6	014	41/8	5.25	9.20
7	8/4	51/2	7.50	13.15
8	01/	01/4	13.50	23.50
10	191/	$\frac{63}{4}$	19.00	33.25
10	14/4	1/2	38.00	66.50

Elbows





1	H
1	
AJ	1)

90° Elbow		45° Elb	ow	60° Elb	ow
Size Inches		DIMENSIONS, A		PRICE, 90°, 45°	OR 60°
	.90°	45°	60°	Black	Galv.
11/4	2	17/6	11/2	\$.30	\$.52
11/2	23/16	15/8	17/8	.38	.67
$1\frac{1}{2}$ x $1\frac{1}{4}$	23/16	T. E		.57	1.00
2	$2\frac{5}{8}$	17/8	1 15/16	.57	1.00
$\frac{2^{1}/_{2}}{3}$	3	2	21/2	1.20	2.10
	33/8	25/16	211/16	1.45	2.55
4	41/8	25/8	27/8	2.30	4.00
5	411/16	3	31/2	4.25	7.40
6	$5\frac{3}{8}$	35/16	4	6.25	11.00
7	57/8	$3\frac{1}{2}$	41/4	11.50	20.00
8	$6\frac{3}{4}$	33/4	45/8	15.00	26.25
10	8	41/2	51/2	31.00	54.00

90° elbows are tapped, pitched ¼ inch to the foot.

DIMENSIONS, A

INCHES 111/4°

 $\begin{array}{c}
1\frac{1}{8} \\
1\frac{7}{32} \\
1\frac{13}{32} \\
1\frac{21}{32} \\
1\frac{13}{32} \\
2\frac{1}{8}
\end{array}$

21/8 23/8 21/2 27/8

3

31/8

No. D-106

221/2° Elbow

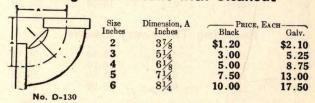
Size Inches



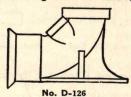


Company of the Compan	
No. D	-108
55%° E	
22½°, 11¼°	EACH
Black	Galv.
\$.30	\$.52
.38	.67
.57	1.00
1.20	2.10
1.45	2.55
2.30	4.00
4.25	7.40
6.25	11.00
11.50	20.00
15.00	26.25
31.00	54.00

Long Turn Elbows with Cleanout



Base Elbows with Cleanout For Connecting Cast to Wrought Pipe

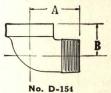


Size		, EACH —	Size	PRICE,	EACH—
Inches	Black	Galv.	Inches	Black	Galv.
2	\$3.30	\$5.75	6	\$25.00	\$43.75
3	5.00	8.75	6x4	27.50	48.00
4	8.00	14.00	6x5	27.50	48.00
4x3	8.75	15.25	8	40.00	70.00
5	15.00	26.25	8x6	44.00	77.00
5x4	16.50	28.75	10	66.00	112.00

90° elbows are tapped, pitched ¼ inch to the foot.

Street Elbows

17/6 11/2 19/6 17/8 17/8 21/4 21/2 21/2 27/8



221/20

 $\begin{array}{c} 1\sqrt[3]{6} \\ 1\sqrt[1]{4} \\ 1\sqrt[7]{6} \\ 1\sqrt[3]{4} \\ 2\sqrt[5]{6} \\ 2\sqrt[5]{6} \\ 3\sqrt[4]{4} \\ \end{array}$

39/16

33/4

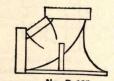


	90° Str	eet Elbow DIMENSIONS	Incure	45°	Street Elb	ow
51ze Inches	A	-90° B	A	- 45°B	PRICE,	EACH——Galv.
$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	1 11/16 1 13/16	29/6 215/6	11/16 11/4	1%	\$.40	\$.70

Cast Iron Drainage Fittings

Screwed for Wrought Pipe

Base Elbows

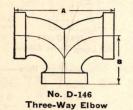


No. D-125 90° Base Elbow with Cleanout



No. D-127 45° Base Elbow

		450	
Black	Galv.		Galv.
\$3.00	\$5.25		\$1.75
4.50	8.00	1.75	3.10
7.00	12.25	2.75	4.80
	21.00	4.50	7.75
18.00	31.50	6.75	11.75
	\$3.00 4.50	\$\begin{array}{cccccccccccccccccccccccccccccccccccc	Black Galv. Black \$3.00 \$5.25 \$1.00 4.50 8.00 1.75 7.00 12.25 2.75 12.00 21.00 4.50





No. D-147 Reducing Three-Way Elbow

Three-way Elbows

Size	DIMENSIO	ons, Inches	PRICE, EACH	
Inches	A	В	Black	Galv.
11/4	5½ 6%	23/4 37/4	\$.75 .85	\$1.25
2	734	37/8	1.10	1.50 1.95
21/2	101/2	5½ 5½	2.25 3.00	3.90 5.25
5	$\frac{12\frac{1}{4}}{14\frac{1}{6}}$	61/8	5.00 7.50	8.75
6	161/2	81/4	13.50	13.15 23.50

Reducing Three-way Elbows

3x4	91/2	45/6	\$5.50	\$9.65
4x5	113/8	55/6	8.25	14.50
4x6	$12\frac{3}{8}$	4 5 16 5 5 16 5 7 16 6 1 4	15.00	26.25
5x6	$13\frac{3}{8}$	$6\frac{1}{4}$	15.00	26.25



No. D-141 Closet Elbow, Flanged One End



No. D-142 Reducing Closet Elbow

Flanged Closet Elbows

Size	DIMENSIONS,	INCHES		PRICE, EACH
Inches	A	В	Black	Galv.
4	41/8	5	\$4.25	\$7.40

Reducing Closet Elbows

Size Inches	DIMENSIO	NS, INCHES	PRICE	EACH——
Inches	A	В	Black	Galv.
4x5	47/18	313/16	\$4.25	\$7.40

Closet elbows are tapped, pitched 1/4 inch to the foot.

Cast Iron Drainage Fittings

Screwed for Wrought Pipe

Tees



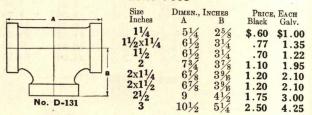
Size	DIMENSIONS, INCHES		PRICE, EACH	
Inches	A	В	Black	Galv.
11/4	33/4	17/8	\$.45	\$.80
11/2	41/2	$2\frac{1}{4}$.55	1.00
2	$5\frac{1}{4}$	25/8	.80	1.40
2½ 3	6	3	1.50	2.50
	67/8	37/16	2.00	3.50
4	81/4	41/8	3.25	5.70
5	93/8	411/16	6.00	10.50
6	$10\frac{3}{4}$	53/8	8.75	15.25
7	113/4	57/8	16.00	28.00
8	$13\frac{3}{4}$	67/8	21.00	37.00
10	16	8	43.00	75.00

Reducing Tees



	Size Inches	DIMENSION	s, Inches	PRICE	EACH
2	x11/4	411/16	216	Black \$.90	Galv.
2	x11/2	411/2	2.9%	.90	\$1.60
	/2x11/2	514	25/6	1.65	1.60 2.75
	/2x2	53%	211/6	1.65	2.75
3	x11/2	576	31/4	2.20	3.85
3	x2	51/2	35/6	2.20	3.85
4	x2	53/	37/8	3.60	6.30
4	x3	71/6	4	3.60	6.30
5	x2	57/8	43/8	6.60	11.55
5	x3	73/6	41/2	6.60	11.55
5	x4	85/16	45/8	6.60	11.55
6	x2	6	5	9.60	16.75
6	x3.	75/16	51/8	9.60	16.75
6	x4	87/6	51/4	9.60	16.75
6	x5	91/2	55/16	9.60	16.75
7	x4	83/4	61/16	17.60	30.80
8	x4	87/8	$6\frac{1}{2}$	23.00	40.70
8	x6	111/4	63/4	23.00	40.70
10	x6	$11\frac{5}{8}$	77/8	47.30	82.50

Basin Tees



Basin Crosses

Size Inches	DIMEN.	, Inches	PRICE	, Елен	M	
11/4	FI	В	Black	Galv.		+
11/4	014	25/8	\$1.25	\$2.25		1
1/2	61/2	31/4	1.50	2.50		1
2	13/4	37/8	1.75	3.10	2	1
$x1\frac{1}{2}$	6/8	39/16	1.95	3.40		
					N-	-

Cast Iron Drainage Fittings Screwed for Wrought Pipe



No. D-117 90° Y Branch



No. D-118 Reducing 90° Y Branch

Tee Pattern 90° Y Branches

Size	DIMENSIONS, INCHES			PRICE.	EACH-
Inches	A	В	C	Black	Galv.
1	31/4	2	2	\$.40	\$.70
11/4	33/4	$2\frac{1}{4}$	$2\frac{1}{4}$.45	.80
11/2	$4\frac{1}{4}$	21/2	21/2	.57	1.00
2	53/16	31/16	31/16	.85	1.50
2½ 3	67/8	4	4	1.80	3.15
3	77/8	51/4	51/4	2.20	3.85
4	93/8	61/8	61/8	3.50	6.15
5	111/4	71/4	71/4	6.50	11.35
6	127/8	81/4	81/4	9.50	16.50
7	133/4	81/4	81/4	17.50	30.50
8	$15\frac{1}{2}$	91/4	91/4	23.00	40 00
10	191/4	121/4	121/4	47.00	82.00

Reducing Tee Pattern 90° Y Branches

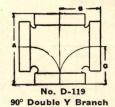
_ :	Size	——Dimi	ENSIONS, INC	HES-	PRICE,	EACH-
	nches.	A	В	C .	Black	Galv.
11	/4x1	$ \begin{array}{r} 3\frac{3}{4} \\ 4\frac{3}{8} \\ 4\frac{3}{8} \\ 5\frac{5}{8} \\ 5\frac{5}{8} \end{array} $	21/4	21/4	\$.50	\$.90
11	/2x1 /2x1 ¹ /4	43/8	23/4	23/4	.63	1.10
11	/2x11/4	43/8	23/4	23/4	.63	1.10
2	x11/4	55/8	33/4	2 ³ / ₄ 3 ³ / ₄	.95	1.65
2	x11/4 x11/2	55/8	33/4	37/8	.95	1.65
21	/2x11/4	$6\frac{1}{4}$	334	4	2.00	3.50
21	/2x1 ¹ / ₄ /2x1 ¹ / ₂ /2x2	61/4	3 ³ / ₄ 3 ³ / ₄ 4 4 ¹ / ₄	4 ¹ / ₄ 4 ¹ / ₂ 4 ¹ / ₄ 4 ⁷ / ₈	2.00	3.50
21	/2x2	611/6	41/	41/2	2.00	3.50
3	x11/4 x11/2	611/10	41/	41/	2.40	4.20
3	x11/2	65%	43/	47%	2.40	4.20
3	x2	7 7/2	41/2	5	2.40	4.20
4	x2 x1 ¹ / ₄	75/0	414 438 412 514 5	5 5½	3.85	4.20
ā	x11/2	71/2	5	51/	3.00	6.75
3 3 4 4 4	v2 /2	6116 6116 6556 776 758 712 7116	51/8	537	3.85	6.75
4	x2 x2 ¹ / ₂	8	51/4	514 538 558 534	3.85	6.75
1	×3	894	51/	53/8	3.85	6.75
-	x3 x1½	73/	574	514	3.85	6.75
4 5 5 5 5 6 6 6	1172	8 9/16 7 3/4 7 15/16	51/4 51/2 51/6	51/4 51/2 61/4	7.15	12.50
5	x2 x2½	916	3 16	01/2	7.15	12.50
5	x2 1/2 x3	81/4	6	61/4	7.15	12.50
5	XJ	9 % 16	57/8	6	7.15	12.50
5	x4	103/16	61/8	634	7.15	12.50
0	x11/2	9 3 16 10 5 16 8 7 16	6/16	63/4 67/6 53/4 61/4 63/4	10.50	18.50
6	x2	8 16	63/8	53/4	10.50	18.50
6	x3	911/16	69/16	61/4	10.50	18.50
6	x4	$10\frac{1}{2}$	$6\frac{3}{4}$	63/4	10.50	18.50
6	x 5	$10\frac{1}{2}$ $12\frac{1}{4}$	61/8 67/6 63/8 69/6 63/4 77/6 73/8 73/6 71/4	8	10.50	18.50
7	x 4	$10\frac{1}{4}$	73/8	61/4	19.00	33.25
8	x2	10	7 3/16	7 3/16	25.50	44.50
8	x 3	10	71/4	61/2	25.50	44.50
8	x 4	$11\frac{1}{2}$	71/2	$\frac{6\frac{1}{2}}{7\frac{1}{2}}$	25.50	44.50
8	x5	$15\frac{1}{2}$	$7\frac{1}{4}$ $7\frac{1}{2}$ $9\frac{5}{16}$ $9\frac{5}{16}$ $8\frac{1}{2}$ $8\frac{3}{4}$	95%	25.50	44.50
8	x 6	$15\frac{1}{2}$	95/16	95/10	25.50	44.50
10	x3	$10\frac{1}{2}$	81/2	61/2	52.00	88.00
10	x 4	$10\frac{7}{8}$	83/4	63/4	52.00	88.00
10	x 6	133/8	934	81/4	52.00	88.00
		, 0	/*	-/4		00.00

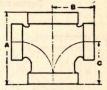
Y branches are tapped, pitched 1/4 inch to the foot.

Inlets on reducing fittings are always the smallest opening.

These fittings have an interior shoulder, and are made with the same inside capacity as the inside diameter of the pipe, thus securing an unobstructed surface, allowing all solid matter to pass without choking the pipe.

Cast Iron Drainage Fittings Screwed for Wrought Pipe





No. D-120 Reducing 90° Double Y Branch

Tee Pattern 90° Double Y Branches

Size	——DIMENSIONS, INCHES——			PRICE	E, EACH
Inches	A	В	C	Black	Galv.
1	31/4	2	2	\$.60	\$1.05
11/4	41/4	21/2	21/2	.70	1.22
11/2	53/16	37/6	37/6	.85	1.50
2	61/6	37/8	37/8	1.30	2.30
2½ 3	71/8	411/16	411/16	2.85	5.00
	77/8	51/4	51/4	3.40	5.95
4	93/8	61/8	61/8	5.25	9.20
5	111/4	71/4	71/4	9.50	16.50
6	$12\frac{7}{8}$	81/4	81/4	14.00	24.50
8	151/2	91/4	91/4	36.00	62.00
10	$19\frac{1}{4}$	$12\frac{1}{4}$	$12\frac{1}{4}$	60.00	102.00

Reducing Tee Pattern 90° Double Y Branches

	Size	D	——DIMENSIONS, INCHES			PRICE, EACH	
	nches	A	В	C	Black	Galv.	
11/	4x1	41/8	21/2	21/2	\$.77	\$1.35	
11/	2x11/4	51/4	33/8	33/8	.95	1.65	
2	x11/4	55/8	33/4	33/4	1.50	2.60	
2	x11/2	65/16	33/4	37/8	1.50	2.60	
21/	2x1½	71/8	411/16	411/16	3.15	5.50	
	2x2	71/8	411/16	411/16	3.15	5.50	
3	x11/2	65/16	43/8	47/8	3.75	6.55	
3 3 4 4 5 5 5 5	x2	77/16	41/2	5	3.75	6.55	
4	x2	71/16	51/8	55/8	5.75	10.00	
4	x3	89/16	$5\frac{1}{4}$	53/4	5.75	10.00	
5	x2	715/16	511/16	51/2	10.50	18.50	
5	x3	93/16	57/8	6	10.50	18.50	
5	x4	105/16	61/8	$6\frac{3}{4}$	10.50	18.50	
6	x2	87/16	63/8	$5\frac{3}{4}$	15.50	27.00	
6	x3	911/16	69/16	$6\frac{1}{4}$	15.50	27.00	
6	x4	$10\frac{1}{2}$	$6\frac{3}{4}$	63/4	15.50	27.00	
6	x5	$12\frac{1}{4}$	77/16	8	15.50	27.00	
8	x3	10	71/4	61/2	40.00	68.00	
8	x4	111/2	71/2	71/2	40.00	68.00	
8	x6	151/2	95/16	95/16	40.00	68.00	
10	x4	107/8	83/4	63/4	66.00	112.00	
10	x6	133/8	93/4	81/4	66.00	112.00	



Long Turn Closet Tees

Tee Pattern 90° Y Branches with Auxiliary Inlets on Body



Inlet on Sides

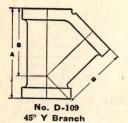
Inlet on Sides and Top

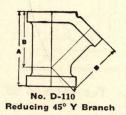
2-inch Inlet on Right or Left Side

Size	PRICE, EACH		Size	PRICE, EACH		
Inches	Black	Galv.	Inches	Black	Galv.	
3	\$5.25	\$9.20	5x4	\$12.00	\$21.00	
4	9.00	15.75	6x4	23.00	40.00	
100	2-	inch Inlet	on Both	Sides		
3	\$5.75	\$10.00	5x4	\$13.00	\$22.75	
4	10.00	17.50	6x4	25.00	44.00	
	2-inch	nlet on R.	or L. Sid	e and To	p	
3	\$5.75	\$10.00	5x4	\$13.00	\$22.75	
4	10.00	17.50	6x4	25.00	44.00	
	2-inch	Inlet on E	oth Sides	and Top		
3	\$6.50	\$11.00	5x4	\$14.50	\$25.50	
4	11.00	19.25	6x4	28.00	49.00	

Cast Iron Drainage Fittings

Screwed for Wrought Pipe





45° Y Branches

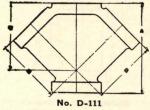
Size	DIMENSIONS, INCHES		PRIC:	E, EACH
Inches	A	В	Black	Galv.
11/4	41/2	33/16	\$.52	\$.90
11/2	$6\frac{1}{4}$	41/8	.65	1.15
2	73/8	415/16	.95	1.65
21/2	81/2	$5\frac{3}{4}$	2.10	3.70
3	9%	65/8	2.65	4.65
4 5	113/8	81/8	3.85	6.75
	133/16	97/6	7.10	12.50
6	149/16	10%	10.50	18.50
7	155/8	$11\frac{1}{2}$	19.00	33.25
8	173/4	133/16	25.00	44.00
10	203/4	153/4	52.00	91.00

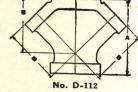
Reducing 45° Y Branches

	Size		ions, Inches	PRICE	, EACH—
		A	В	Black	Galv.
2	2x11/4	6	4	\$.72	\$1.25
2	x11/4	63/8	41/2	1.05	1.85
	x11/2	69/16 57/16	4 9 16 4 1 4	1.05	1.85
21	/2×11/4	5 16	41/4	2.30	4.00
4	/2x11/2	53/4	41/4	2.30	4.00
	/2x2	$6\frac{1}{4}$	41/2	2.30	4.00
3	x11/4	7	53%	2.90	5.10
3 3	x1½	73/16	53/8 51/2 57/8	2.90	5.10
3	x2	8	57/8	2.90	5.10
3	x2½	83/8	61/8	2.90	5.10
4	x11/4	81/4	65/8	4.25	7.40
4	x11/2	8	61/2	4.25	7.40
4	x2	81/4	6 ¹ / ₂ 6 ⁵ / ₈	4.25	7.40
4	x21/2	97/8	71/2	4.25	7.40
4	x3	915/16	71/2 77/6	4.25	7.40
5 5	x2	81/2	73/8	7.80	13.65
5	x3	101/16	83/6	7.80	13.65
5	x4	111/16	83 l6 87 8 81 4	7.80	13.65
6	x2	83/4	81/1	11.50	20.00
6	x21/2	83/4	81/4	11.50	20.00
6	x3	103/8	91/6	11.50	
6	x4	111/6	934	11.50	20.00
6	x5	131/2	103/8	11.50	20.00
7	x3	111/4	10	21.00	20.00
7	x4	115%	101/6	21.00	37.00
-					37.00
7	x5	117/8	101/2	21.00	37.00
7	x6	$12\frac{1}{2}$	1134	21.00	37.00
8	x3	11	1014	27.50	48.00
8	x4	12	1011/16	27.50	48.00
0	x5	13½	113/16	27.50	48.00
8	x6	141/2	117/8	27.50	48.00
10	x4	13	$12\frac{3}{8}$	57.00	37.00
10	x5	151/4	$13\frac{7}{16}$	57.00	97.00
10	x6	151/4	137/6	57.00	97.00
10	x8	181/8	143/8	57.00	97.00

Cast Iron Drainage Fittings

Screwed for Wrought Pipe





No. D-111 No. D-112 45° Double Y Branch Reducing 45° Double Y Branch

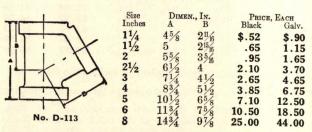
45° Double Y Branches

Size	DIMENSIONS, INCHES		PRIC	E, EACH
Inches	A	В	Black	Galv.
11/4	41/2	33/16	\$.90	\$1.60
11/2	$6\frac{1}{4}$	41/8	1.00	1.75
2	73/8	415/16	1.45	2.55
21/2	$8\frac{1}{2}$	53/4	3.25	5.70
3	99/16	65/8	4.00	7.00
4	113/8	81/8	5.75	10.00
5	133/16	97/16	10.75	18.80
6	149/16	109/16	16.00	28.00
7	155/8	111/2	28.50	50.00
8	173/4	133/6	38.00	66.50
10	203/4	153/4	78.00	137.00

Reducing 45° Double Y Branches

		Double	I Dianci	162
Size Inches		ons, Inches	PRICE	E, EACH
	A	В	Black	Galv.
1½x1¼	6	4	\$1.10	\$1.90
2 x11/4	63/8	41/2	1.60	2.80
2 x1½	69/16	49/16	1.60	2.80
21/2×11/4	57/6	41/4	3.60	6.30
2½x1½	53/4	41/4	3.60	6.30
2½x2	61/4	$4\frac{1}{2}$	3.60	6.30
3 x1½	73/16	$5\frac{1}{2}$	4.40	7.70
3 x2	8	57/8	4.40	7.70
3 x2 4 x2	81/4	65/8	6.35	11.00
4 x3	915/16	77/16	6.35	11.00
5 x2 5 x3	81/2	73/8	11.75	20.50
5 x3	101/6	83/16	11.75	20.50
5 x4	111/6	878	11.75	20.50
6 x2	83/4	81/4	17.50	30.50
6 x3	103%	91/6	17.50	30.50
6 x4	1115/6	934	17.50	30.50
6 x5	$13\frac{1}{2}$	103/8	17.50	30.50
7 x3	115/8	101/6	31.50	54.00
7 x4 7 x5	115/8	101/16	31.50	54.00
7 x5	1276	10 7/6	31.50	54.00
7 x6	143/4	1134	31.50	54.00
8 x3 8 x4	11	101/4	42.00	72.00
8 x4	12	1011/16	42.00	72.00
8 x5	131/2	113/6	42.00	72.00
8 x6	141/2	117/8	42.00	72.00
10 x4	13	123/9	86.00	146.00
10 x6	151/4	1376	86.00	146.00
10 x8	181/8	143/8	86.00	146.00
	- 78	/8	00.00	140.00

60° Y Branches

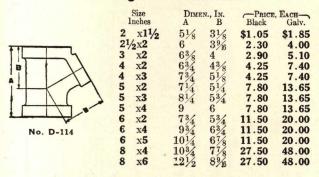


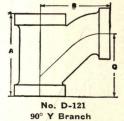
90° Y branches are tapped pitched 1/4 inch to the foot.

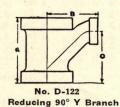
Cast Iron Drainage Fittings

Screwed for Wrought Pipe

Reducing 60° Y Branches







Tee Pattern 90° Long Turn Y Branches

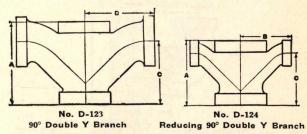
Size	DIMENSIONS, INCHES			PRICE, EACH		
Inches	A	В	C ,	Black	Galv	
11/4	43/4	$3\frac{1}{2}$	31/2	\$.57	\$1.00	
11/2	$5\frac{1}{4}$	33/4	33/4	.70	1.22	
2	65/8	51/8	55/8	1.10	1.95	
21/2	$7\frac{3}{4}$	6	6	2.40	4.20	
3	8	67/8	65/8	3.35	5.85	
4	101/8	85/8	81/4	6.00	10.50	
5	111/4	91/8	83/4	9.50	16.50	
6	$13\frac{3}{8}$	103/8	101/8	20.00	35.00	
7	$14\frac{1}{2}$	101/4	101/4	30.00	52.50	
8	17	12	12	40.00	70.00	

Reducing Tee Pattern 90° Long Turn

		Y Brai	nches		
Size	D	IMENSIONS, INC	HES-	PRICE	E, EACH
Inches	A	В	C	Black	Galv.
11/4×1	41/2	311/16	311/16	\$.63	\$1.10
$1\frac{1}{2}$ X1	45/8	35/8	35/8	.80	1.40
$1\frac{1}{2}$ X $1\frac{1}{4}$	$4\frac{1}{2}$ $4\frac{5}{8}$ $4\frac{3}{4}$	35/8	3 ¹¹ / ₁₆ 3 ⁵ / ₈ 3 ⁵ / ₈ 4 ⁷ / ₁₆	.80	1.40
2 x11/4	$5\frac{3}{8}$	3 ¹¹ / ₁₆ 3 ⁵ / ₈ 3 ⁵ / ₈ 4 ⁷ / ₁₆	47/6	1.20	2.10
1½x1 1½x1½ 2 x1¼ 2 x1½	$ \begin{array}{r} 538 \\ 512 \\ 714 \\ 714 \\ 712 \\ 738 \end{array} $	$4\frac{1}{2}$ $5\frac{3}{4}$ $5\frac{3}{16}$ $5\frac{1}{2}$ $5\frac{3}{4}$	4 ¹ / ₂ 5 ³ / ₄ 5 ³ / ₁₆	1.20	2.10
2½x1 2½x1½ 2½x1½ 2½x1½ 2½x1½	71/4	53/4	534	2.65	4.65
21/2×11/4	71/4	53/6	53/6	2.65	4.65
21/2×11/2	71/2	51/2	51/2	2.65	4.65
21/2×2	7½ 7¾ 7¾	53/	53/4	2.65 2.65	4.65
3 x1½	6	51/4	43/	3.75	6.55
3 x2	71/4 77/8 61/6	5	51/2	3.75	6.55
3 x21/2	77%	63/	63/	3.75	6.55
4 x1½	61/6	63/4 57/6 61/2 71/6 71/2	43/	6.60	11.55
4 x2	71/4	61/2	$4\frac{3}{4}$ $5\frac{1}{2}$ $6\frac{5}{8}$ $6\frac{1}{2}$ $4\frac{15}{16}$	6.60	11.55
4 x21/2	85%	71%	$ \begin{array}{c} 51/2 \\ 65/8 \end{array} $	6.60	11.55
4 x3	$ 7\frac{1}{4} $ $ 8\frac{5}{8} $ $ 8\frac{1}{2} $	716	61/2	6.60	11.55
4 x3 5 x1 ¹ / ₂ 5 x2 5 x2 ¹ / ₂ 5 x3 5 x4 6 x2	65/6	6	415/16	10.50	11.55
5 x2	734		61/		.18.50
5 x21/2		73/	73/	10.50	18.50
5 12/2	83/8 83/8	73/	61/8	10.50	18.50
5 x3	83/8	03/8	01/2	10.50	18.50
5 x4	934	8%	1/2	10.50	18.50
6 x2	715/16	13/4	61/8 73/8 61/2 71/2 65/6 81/6	22.00	38.50
6 x3	$ \begin{array}{c} 934 \\ 1034 \\ 1134 \\ 1014 \end{array} $	$7\frac{1}{8}$ $7\frac{3}{8}$ $7\frac{3}{8}$ $7\frac{3}{8}$ $8\frac{3}{4}$ $7\frac{3}{4}$ $9\frac{1}{8}$ $9\frac{1}{2}$ $9\frac{5}{8}$	81/16	22.00	38.50
6 x4	103/4	91/2	81/8	22.00	38.50
6 x5	113/4	95/8	83/4	22.00	38.50
7 x3 7 x4	$10\frac{1}{4}$	$10\frac{1}{2}$	81/4	33.00	58.00
7 x4	$13\frac{1}{4}$	113/4	101/4	33.00	58.00
7 x5	13	$ \begin{array}{c} 10\frac{1}{2} \\ 11\frac{3}{4} \\ 9\frac{3}{4} \\ 10\frac{1}{2} \\ 10\frac{7}{8} \end{array} $	9 10½ 856	33.00	58.00
7 x6	133/4	101/2	101/2	33.00	58.00
8 x3	105/8	107/8	85/6	44.00	77.00
8 x4	$13\frac{3}{4}$ $10\frac{5}{8}$ $13\frac{3}{8}$	12	1076	44.00	77.00
			, 10		

Cast Iron Drainage Fittings

Screwed for Wrought Pipe



Tee Pattern 90° Long Turn Double Y Branches

Size		DIMENSIONS, INC	PRICE, EACH		
Inches	A	В	C	Black	Galv.
11/4	41/4	21/2	21/2	\$1.00	\$1.75
11/2	51/4	33/4	33/4	1.10	1.95
2	65/8	51/8	55/8	1.75	3.10
2½ 3	73/4	6	6	3.60	6.30
3	8	67/8	65/8	5.00	8.75
4	101/8	85/8	81/4	9.00	15.75
5	111/4	91/8	83/4	14.00	24.50
6	133/8	103/8	101/8	30.00	52.50
7	141/2	101/4	101/4	45.00	79.00
8	17	12	12	60.00	105.00

Reducing Tee Pattern 90° Long Turn Double Y Branches

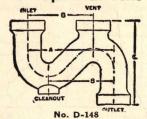
Size DIMENSIONS, INCHES	IRIC	E, EACH
Inches A B C	Black	Galv.
11/4x1 41/2 31/16 31/16	\$1.10	\$1.90
1½x1 45% 35% 35%	1.25	2.25
1½x1¼ 45% 35% 35%	1.25	2.25
2 x1 ¹ / ₄ 5 ³ / ₈ 4 ⁷ / ₁₆ 4 ⁷ / ₁₆	1.90	3.35
2 x11/6 51/6 41/6 41/6	1.90	3.35
$2\frac{1}{2} \times 1\frac{1}{4}$ $7\frac{1}{4}$ $5\frac{3}{16}$ $5\frac{3}{16}$	4.00	7.00
$2\frac{1}{2} \times 1\frac{1}{2}$ $7\frac{1}{4}$ $5\frac{3}{16}$ $5\frac{3}{16}$	4.00	7.00
$2\frac{1}{2}$ x2 $7\frac{3}{8}$ $5\frac{3}{4}$ $5\frac{3}{4}$	4.00	7.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5.50	9.65
3 x2 7½ 5 5½	5.50	9.65
4 x11/2 61/6 57/6 43/4	10.00	17.50
4 x2 7½ 6½ 5½	10.00	17.50
4 x2½ 858 7½6 658	10.00	17.50
4 x3 8½ 7½ 6½	10.00	17.50
5 x1½ 6½ 6 4½	15.50	27.00
5 x2 734 718 618	15.50	27.00
5 x3 83 83 73 612	15.50	27.00
5 x4 934 834 7½ 6 x2 756 734 656	15.50	27.00
6 x2 715/6 73/4 65/6	33.00	58.00
6 x3 934 918 816	33.00	58.00
6 x4 10 ³ / ₄ 9 ¹ / ₂ 8 ¹ / ₈	33.00	58.00
6 x5 1134 95% 834	33.00	58.00
7 x4 $14\frac{1}{2}$ $10\frac{1}{4}$ $10\frac{1}{4}$	50.00	85.00
8 x3 $10\frac{5}{8}$ $10\frac{7}{8}$ $8\frac{5}{6}$	66.00	112.00
8 x4 13 ³ / ₈ 12 10 ⁷ / ₆	66.00	112.00

Increasers



	Size	Dim.,	A Price	E, EACH	Size	Dim., A	PRICE	EACH
	In.	In.	Black	Galv.	In.	In.	Black	Galv.
11	2x11/4	9	\$1.50	\$2.60	5x4	9	\$5.50	\$9.65
2	x11/2	9	1.75	3.00	6x3	9	6.50	11.35
21	2x2	9	2.00	3.50	6x4	9	6.50	11.35
3	x2	9	2.50	4.40	6x5	9	6.50	11.35
4	x2	9	3.75	6.55	7x5	9	12.00	20.00
4	x3	9	3.75	6.55	7x6	9	12.00	20.00
5	x2	9	5.50	9.65	8x6	9	15.00	26.25
5	x3	9	5.50	9.65	8x7	9	15.00	26.25

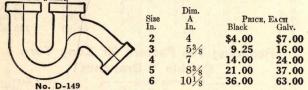
Cast Iron Drainage Fittings Screwed for Wrought Pipe S Traps with Vent



Size				Size Vent	Size	Pric	E, EACH
In.	A	В	C	Inches	Inches	Black	Galv.
2	8	6	83/4	2	1	\$4.00	\$7.00
3	11	81/4	111/4	3	11/4	9.25	16.00
4	131/2	$10\frac{1}{2}$	137/8	4	2	14.00	24.00
5	$15\frac{1}{2}$	115/8	153/4	4	2	21.00	37.00
6	171/2	13	18	4	2	36.00	63.00
8	237/8	18	233/4	6	3	60.00	105.00

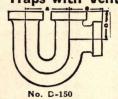
The vent for the 2-inch size is 2 inches; 3-inch size, 3 inches; 4, 5 and 6-inch sizes, 4 inches.

Three-quarter S Traps with Vent



The vent for the 2-inch size is 2 inches; 3-inch size, 3 inches; 4, 5 and 6-inch sizes, 4 inches.

P Traps with Vent



Size	DIMENSIONS, INCHES				PRICE, EACH		
In.	A	В	C	Vent	Black	Galv.	
11/4	37/6	25/8	21/2	11/2	\$1.55	\$2.70	
11/2	37/6	25/8	$2\frac{1}{2}$	11/2	1.70	3.00	
2	4	31/16	29/16	2	2.20	3.85	
3	53/8	43/16	31/2	3	5.00	8.75	
4	7	51/8	43/6	4	10.00	17.50	
5	83/8	61/6	43/4	4	21.50	37.50	
6	101/8	69/6	57/6	4	32.50	57.00	
8	123/8	815/16	63/4	4	55.00	95.00	
10	18	811/16	93/8	4	100.00	175.00	

Running Traps with Double Vent

No. D-151 DIMENSIONS, INCHES PRICE, EACH ck Galv. Inches A Vent Black 11/4 11/2 2 3 4 2½ 2½ 2½ 296 3½ 436 83/4 $\frac{1\frac{1}{2}}{1\frac{1}{2}}$ \$2.40 2.70 83/4 101/8 37/16 4 2 3.30 53/8 3 5.50

43/4 57/6 63/4 93/8

 $\frac{17\frac{1}{4}}{20\frac{1}{2}}$

231/4

301/4

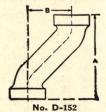
5

6

10

83/8 101/8

Cast Iron Drainage Fittings Screwed for Wrought Pipe Offsets



Size	Offset	Length			Size	Offset	Length	PRICE	, EACH
In.	B, In	. A, In.	Black	Galv.	In.	B, In.	A., In.	Black	Galv.
2	4	71/2	\$2.15	\$3.75	4	10	153/4	\$7.50	\$13.15
2	6	91/2	2.40	4.20	4	12	173/	8.50	15.00
2		111/2	2.60	4.55	5	6	125/8	9.00	15.75
	10	$13\frac{1}{2}$	2.85	5.00	5	8	145/8	10.00	17.50
3	4	83/4	3.35	5.85	5	10	165%	11.00	19.25
3		$10\frac{3}{4}$	4.00	7.00	5	12	185%	12.00	21.00
3	8	$12\frac{3}{4}$	4.75	8.30	6	6	135/8	12.50	22.00
3	10	$14\frac{3}{4}$	5.50	9.65	6	8	155%	13.50	23.50
4	4	93/4	5.00	8.75	6	10	175/8	14.50	25.50
4	6	$11\frac{3}{4}$	5.75	10.00	6	12	195%	15.50	27.00
4	8	133/4	6.50	11.35			, 0		

Cappings for Air Inlet



Hub Connections

			ub CC	MILLECTIC	2115		
Size	DIM	DIMENSIONS, INCHES			PRICE, EACH		
In.	A	В	C	Black	Galv.	P-C	
2	31/2	313/6	3	\$1.15	\$2.00		
3	49/16	4 15/16	41/8	1.20	2.10		
4	55/8	6	51/8	1.50	2.60	***	
5	611/16	71/6	6	2.00	3.50	A	
6	73/4	83/16	71/8	4.25	7.40	No. D-140	

6 73/4	83/16	71/8	4.25	7.	40 h	No. D-140
		Tue	cker C	onne	ction	s /
	Size Inches	Prici	E, EACH Galv.	Size Inches	PRI	CE, EACH Galv.
	2	\$.80	\$1.40	5	\$6.00	\$10.50
	3	2.00	3.50	6	8.75	15.25
No. D-137	4	3.25	5.70			

No. D-137

Size In.

\$4.20

4.70

5.75

9.50

17.00

43.00

58.50

115.00

200.00

9.75

24.50

33.50

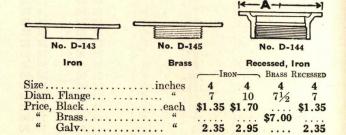
65.00

115.00

Brass Solder Nipples Price Each Size Inches Price Each \$.80 3 \$2.75 .90 4.00 9.00 1.05 5 1.50 No. D-139

		Tra	p Screv	w Feri	rules	
1	Size Inches	PRICE Black	, Each Galv.	Size Inches	PRICE Black	, Each Galv.
	2	\$1.00	\$1.75	5	\$5.00	\$8.75
	3	2.00	3.50	6	7.00	12.25
No. D-138	4	3.00	5.25	1.		

Closet Flanges



Duriron Acid-proof Drain Pipe and Fittings



Duriron is a cast metal alloy containing the proper silicon content to make it entirely resistant to all acids and alkalies used commercially, of any strength or temperature.

It is extremely hard and is not affected by the scouring effect of solids carried in suspension.

Duriron pipe is equally resistant inside, outside and all through its structure; there is no coating, lining or treating, and therefore no scaling or chipping to expose it to attack.

With a Duriron drain line installation it is unnecessary to encase it in concrete, to provide drip pans, or to make any provision for anticipated failure.

Duriron lines may be laid in concrete. In cinder concrete, where the sulphur will at once attack iron pipe, there is no action on Duriron.

Duriron drain lines are installed in the same manner as cast iron, except that asbestos rope should be used instead of oakum. Joints in a Duriron line, properly caulked, will not loosen or leak even under severe conditions such as building vibration or settling.

Duriron pipe, while taking paint readily when it is desired, does not require it for preservation, because it does not rust. It may show a discoloration due to surface impurities, sand, etc., of the casting, but there is no further action.

Duriron pipe will handle acids and acidulated water with the same facility and with no more effect on it than pure water has on cast or wrought iron pipe. It eliminates waste of material and reduces accident and fire hazard.

Duriron Acid-proof Pipe

			Single-h	ub Pi	pe		
Size In.	No. Ft. per Lgth.	Weight per Lgth. Pounds	Price per Lgth.	Size In.	No. Ft. per Lgth.	Weight per Lgth. Pounds	Price per Lgth.
11/2	3	18	\$11.00	4	5	79	\$37.80
2	4	32	16.40	6	5	135	65.00
3	5	59	27.80	8	5	230	116.00
			Double-I	hub Pi	pe		
11/2	3	21	\$12.00	4	5	81	\$43.00
2	4	34	18.90	6	5	142	71.00
3	4	50	28.00	8	5	253	124.00

Sanitary Tee, Y and TY Branches

		TEE B	RANCHES		ANCHES		RANCHES
	Size In.	Weight Pounds	Price Each	Weight Pounds	Price Each	Weight Pounds	Price Each
11	/2x11/2	9	\$4.90	9	\$5.10	9	\$5.35
2	x11/2	10	5.45	10	5.90	11	6.00
2	x2	11	6.10	11	6.20	12	7.00
3	x11/2	13	7.00	13	7.70	14	7.90
3	x2 2	14	7.60	14	7.80	15	8.20
3	x3	17	8.60	17	8.90	19	10.30
4	x11/2	16	8.70	17	8.80	18	10.00
4	x2	18	9.15	18	10.00	19	11.50
4	x3	21	11.80	21	12.80	22	14.50
4	x4	22	13.60	25	14.70	28	15.30
6	x2	35	16.80	35	17.80	26	18.40
6	x3	39	19.00	39	20.00	34	21.40
6	x4	44	19.50	44	21.50	36	23.20
6	x6	52	24.00	52	27.00	47	29.50

Duriron Acid-proof Drain Pipe Fittings

Upright Y Branches



			STATE OF THE		
Size Inches	Weight Pounds	Price Each	Size Inches	Weight Pounds	Price Each
1½x1½	9	\$5.40	4 x2	19	\$11.50
	11	6.00	4 x3	22	14.50
2 x2	12	7.00	4 x4	28	15.30
3 x1½	14	7.90	6 x2	36	18.40
3 x2	15	8.20	6 x3	41	21.50
2 x1½ 2 x2 3 x1½ 3 x2 3 x3	19	10.30	6 x4	46	23.20
4 x1½	18	10.00		56	
4 1172	10			90	29.50
		Red	ucers		
2 x1½	5	\$3.20	5 x4	12	\$6.30
3 x1½	6	3.60	6 x2	12	6.30
3 x2	7,	4.50	6 x3	13	6.70
2 x1½ 3 x1½ 3 x2 4 x1½	7	4.50	6 x4	14	7.80
4 x2		4.80	6 x5	18	11.00
4 x3	8 9	5.20	8 x4	27	20.00
	100			as the same	20.00
	4 2 2 3		easers	A Mary District	120100
1½x2	7	\$4.00	3 x6	16	\$11.00
1½x3	81/2	4.40	4 x5	16	11.00
2 x3	9	5.00	4 x6	171/2	12.70
1½x4	$10\frac{1}{2}$	5.20	5 x6	18	13.50
2 x4 3 x4	11	6.30	4 x8	43	30.00
3 x4	13	6.90	6 x8	50	34.00
2 x6	15	7.80			
		Quarte	r Bends		A DE NAMES OF
11/	0			10	40.00
11/2	6 7	\$4.00	4	16	\$8.20
3		4.80	6	30	16.70
3	12	6.20	8	67	50.00
	Eigh	th and S	ixteenth E	Bends	
11/2	5	\$3.90	4	13	\$7.80
2	5 7	4.50	6	25	16.20
3	9	5.90	8	50	38.00
A. A. C. Long Man		0.00	Di Na Maria		30.00
•		-			
					The second second second



P Trap

			P Trap	DS				
		-WITHOUT VI		-	WITH VENT-			
a.	W . 14	PRICE	, EACH	PRICE, EACH—				
Size In.	Weight Pounds	Without Cleanout	With	Weight Pounds	Without	With		
11/2	8	\$5.60	\$6.60	12	\$8.40	\$9.40		
2	11	7.70	8.70	15	9.50	10.50		
2 3	19	16.80	18.30	24	17.80	19.30		
4	27	19.80	21.30	38	23.70	25.20		
6								
			S Trap	os				
11/2	9	\$6.50	\$7.50	13	\$8.60	\$9.60		
2	14	9.00	10.00	16	10.20	11.20		
2 3	22	17.20	18.70	28	19.20	20.70		
4	32	22.00	23.50	39	25.50	27.00		
6								
			Running '	Traps				
11/2	9	\$9.20	\$10.20	13	\$10.50	\$11.50		
2	13	13.70	15.20	17	15.60	16.60		
2 3	21	18.60	20.10	27	21.00	22.50		
4	40	28.00	29.50	43	33.50	35.00		
6	48	50.00	51.50	60	56.00	57.50		

Standard Sewer Pipe and Fittings Sewer Pipe

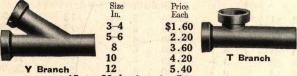
	Size In.	Price per Ft.	Size In.	Price per Ft.	Size In.	Price	
	3-4	\$.40	15	\$1.80	24	per Ft. \$4.50	
CONTRACTOR OF THE PARTY OF	5-6	.55	18	2.50	27	6.50	
	8	.90	20	3.00	30	7.20	
	10	1.05	21	3.50	33	9.00	
	12	1.35	22	4.00	36	10.25	

Channel pipe, price of 3/5 of one foot of pipe.

		LIDOWS		
Size	Price	Size	Price	
In.	Each	In.	Each	
3-4	\$1.60	10	\$1.20	
5-6	2.20	12	5.40	
8	3.60			
		Curves		145 to 150 to 15



and T Branches 2 Feet Long 3 to 12 Inches in Diameter



15 to 36 Inches in Diameter

	AAICII	IIIIers	OP to 12	inches	
Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each
15	\$7.20	22	\$16.00	33	\$45.00
18	10.00	24	18.00	36	51.25
20	12.00	27	32.50		
21	14.00	30	36.00		
	V	and	T Brane		

With inlet 12 inches or under, take 5 times the price of one foot of pipe of same size. With inlet 15 inches or larger take 9 times the price of one foot of pipe of same size.

Double Y and T Branches

With inlet 12 inches and under take 8 times the price of one foot of pipe of same size. With inlet 15 inches or larger take 10 times the price of one foot of pipe of same size.

V Branches

Take 10 times the price of one foot of pipe of same size.

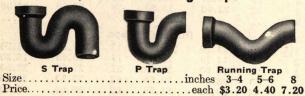
		Slants		
	Diam. Inches	Made in Lengths Inches	Thickness Inches	Price Each
	5	$4\frac{1}{2}$, 9, $13\times6\frac{1}{2}$, 11, 15	5/8	\$2.20
	6	$4\frac{1}{2}$, 9, $13\times6\frac{1}{2}$, 11, 15	5/8	2.20
	8	9, 13x 11, 15		3.60
And the second	10	9, 13x 11, 15	7/8	4.20
	12	9, 13x 11, 15		5.40
	15	9, 13x 11, 15	11/8	7.20

Increasers and Reducers

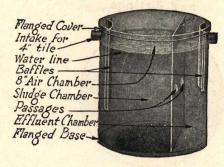
Size, Inches Small Large End End 3 4 4 5	Price Each \$1.60 2.20	Size, Small End 4	Inches Large End 6	Price Each \$2.20 2.20	Inches Large End 8 10	Price Each \$3.60 4.20

Increasers or reducers not shown as standard take 6 times the price of one foot of pipe of the larger size.

S, P and Running Traps



San-Equip Septic Tanks



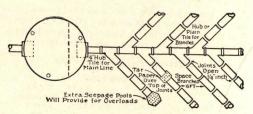
By use of this septic system the plumbing dealer is able to give complete sewage disposal service in the unsewered areas.

Material is of 14-gauge copper alloy iron, rust-proof enameled. Design follows the specifications of the U. S. Public Health Service. Enamel process is unaffected by moisture, acids or soil.

The septic process simply stated is a digestion of sewage by which solids are eliminated and final disposal simplified. The treated sewage is to be disposed of by soil filter or by dry well or open streams when permissible.

The use of an iron tank for sewage treatment has been made practicable by the perfecting of the process for proofing the tank against rust. A mineral enamel is melted onto the entire surface of the tank. The 50 to 60 pounds of enamel on the smallest tank is equivalent to 15 to 20 coats of paint but more effective than a paint process because it is an all mineral compound and becomes part of the tank itself, increasing the tank walls to double thickness.

Materials needed are hub tile for a tight main line; hub or plain tile for branches which are to be 6 feet apart. Use 20 feet per person in porous soil, 30 to 40 feet if tight soil. Depth of tile should be 12 to 18 inches. Tile caps or tar paper over open joints. Grade 1 inch to 10 feet. Build up trenches with stone under and over tile if tight soil.



Plan View of Filter Bed

No.	Cap. Gal.	No. of People	Diam. In.	Depth In.	Lgth. Ft.	Weight Pounds	Price Each
402	200	6	38	48		295	\$44.00
403	300	10	47	48		325	56.00
405	500	20	52		5	420	90.00
410	1000	50	60		8	950	180.00
415	1500	75	60		12	1300	270.00
420 425	2000	100	60		16	1650	360.00
430	2500 3000	$\begin{array}{c} 125 \\ 150 \end{array}$	60		20	2000	450.00
435	3500	175	60		24	2350	540.00
440	4000	200	60		28 32	2700 3050	630.00

For larger systems up to 36000 gallons, ask for plans and prices.

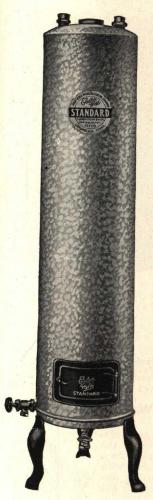
Prices do not include any filter tile.

Allow 15 gallons per person for schools, 20 gallons for mills.

Nos. 402 and 403 are upright round tanks. The Nos. 405 and 410 are horizontal round tanks with two manholes.

Special plans for larger capacity disposal systems will be furnished upon application.

Standard Combination Boilers and Gas Water Heaters



The Standard is completely assembled; one self-contained unit ready to install. Has three openings to connect.

The incoming cold water is carried immediately to the bottom so that it does not chill the hot water in storage. It then feeds into the heating element where it is thinly spread out over this hot surface; is quickly heated and sent through the riser pipe in front of the flue, directly to top of boiler. This makes possible quick draws of hot water.

In addition to the heating element against which the intense blaze plays directly, the heat is then also deflected against the tank bottom. Before the hot burned gases are finally discharged they must travel through the flue that runs through the entire length of the boiler. This triple heating method means even heat, top and bottom, and a saving in gas.

The Standard is a dry heater. There is no moisture dripping on the floor. All excess air has been eliminated, and condensation troubles are prevented by the use of a special design spreader, a pan stand that closes the combustion chamber, all of which cause the gathering moisture to be evaporated and discharged in a dry state through the flue.

Connections are furnished for sediment faucet. Regular draining will remove possibility of sediment and will keep the heater working at its best.

Tank is of extra heavy electric-weld construction thoroughly galvanized inside and outside. Rear flue design Has one-piece burner, no gauze, especially designed for quick action and gas economy. High velocity gas stop. Adjustable to all gases, assuring a mixture that gives intense heat. Heating element is cast iron, will not burn out. Designed to send hot water rapidly, without trapping, directly to top of tank. Water flows in a thin sheet along inner walls of heating element and rises through tube. Pan stand is heat retaining, prevents draft interference and condensation troubles.

Size No. 1 is intended for barber shops, hairdressing parlors, drug stores and other places requiring only a moderate supply of hot water.

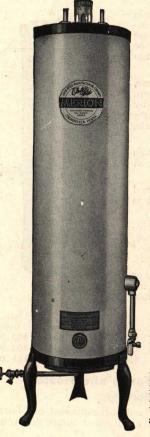
Size No. 2 is intended for the small home equipped with one bath, kitchen sink, and lavatory.

Size No. 3 is intended for the home equipped with one bath, kitchen sink, lavatory and laundry trays.

Water connections, all sizes, $\frac{3}{4}$ inch. Gas connections, all sizes, $\frac{1}{2}$ inch.

No.	Size Shell, Inches	Approximate Weight, Pounds	Price Each
1	12x36	75	\$33.00
2	12x48	90	35.00
3	14x48	125	38.00

Merion Automatic Storage Gas Water Heaters



The Merion Automatic Storage Gas Water Heater retains heat like a thermos bottle. It will not overheat nor fail to keep the water hot.

This heater is simple and fool proof. No adjustments are necessary. All adjustments are made at the factory and permanently set. It is easier to install than a range boiler. Only one gas and two water connections to make, saving labor and fitings.

The Merion costs no more to operate than a side heater and is constantly supplying hot water. It is fully insulated so that no waste heat is thrown off. One can place his hand on any part of the Merion and feel little heat, yet the water in the tank and pipes is 160 degrees.

The heater is automatically controlled. A dual action thermostat valve, self-adjusting to different quality and varying pressures of gas, controls both the pilot or carrying heat and the burner.

The self-closing lighting hole is used only when lighting the heater. The Merion has no door or other openings that would allow drafts to affect the burner.

The burner has no pilot light. When the tank is full of hot water, thermostat re-

duces the gas flow so the burner acts as its own pilot. The burner has no gauze and will not clog up nor back fire.

The needle valve gas mixer is set for artificial gas and adjustable for natural gas.

The removable bottom cover allows easy access to heating parts.

The storage tank is extra heavy, electric weld construction. The body is heavy steel, finished in robin egg blue enamel. This is applied with compressed air and is practically indestructible. Unlike ordinary enamel, it cannot be harmed by washing or chipped off by striking any ordinary blow.

This heater is made in four sizes, as listed below.

No. 1 is the small family size, for small homes, bungalows, apartments, barber shops or beauty parlors.

No. 2 is the family size, for houses with one bath, laundry and kitchen fixtures, or any place requiring a good volume of hot water.

No. 4 is the size for duplex, or two-family houses, or a large home with two or three bath rooms, small apartments, office buildings, large barber shops and restaurants.

No.	Size Over All Inches	Capacity Gallons	Price Each
1	15x39	15	\$60.00
2	15x51	20	70.00
4	19x51	36	90.00

Arco Combined Tanks and Heaters Gas-Burning

A perfected gas-burning unit attaining a new high standard of operating efficiency and durability

The body of the tank is made of ½-inch steel, galvanized inside and outside to prevent rust or corrosion from dampness or corrosive chemical elements in the water.

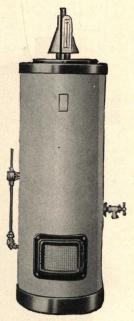
Combustion chamber, burner, and flue pipe in each size tank, are co-related in size and carefully positioned to secure a complete combustion of the gas within the combustion chamber.

Equipped with thermostatic control which keeps the water at uniform temperature.

Exterior metal jacket finished in gray japan. All plate work is finished with black enamel.

Completely equipped with automatic thermostat control, burner, thermometer, diverter hood and shipped assembled in one unit.

Burns natural, manufactured or mixed gas, proper burner being supplied according to requirements.



No. G-25

No.	Cap. Gals.	Approx. Ship. Wt. Lbs.	Price Each	No.	Cap. Gals.	Approx. Ship. Wt. Lbs.	Price Each
G-20	20	190	\$66.00	G-35	35	250	\$93.00
G-25	25	210	75.00	G-40	40	270	102.00
G-30	30	230	84.00	G-45	45	290	111.00

Arco Combined Tanks and Heaters Coal-Burning

First and only self-contained, coal-burning hot water heater and storage tank combined.

The body of every Arco Tank is made of ½-inch cold rolled steel, galvanized both inside and outside to prevent rust and corrosion.

Fire pot is welded right into the tank, completely surrounded by water and is made of one-piece seamless steel, 5/6-inch thick.

Gravity circulator means quick, even heating and continuous circulation is maintained.

Equipped with an automatic regulator which keeps the water at the desired temperature.

The exterior metal jacket is finished with lustrous gray japan—the cap and base with a gleaming black. All plate work is finished with black porcelain enamel.

Completely equipped with automatic regulator, thermometer, ash pan, and shipped assembled in one unit.

Approximate

Burns hard or soft coal.

No.	Capacity Gallons	Shipping Weight Pounds	Price Each
30	30	325	\$84.00
40	40	360	102.00
50	50	385	120.00
60	60	535	138.00
80	80	560	180.00
100	100	580	222.00

No. 30 Ohio Double Copper Coil Gas Water Heaters

Has a flared cast iron shell which allows space around the burner for proper combustion; the upper part of the shell fits snugly around the coil directing the hot gases directly through them. The door is fitted with self closing spring hinge and special catch for holding door open when heater is being lighted or cleaned. The double coils are 3/4-inch seamless 20-gauge copper tubing with red brass fittings and union connections. Has new type powerful burner with bottom gas connections. Drip cup attached to heater jacket and mixer locks through drip cup with bayonet catch.

Each coil is tested on 225 pounds cold water pressure.

Heater is furnished in black japan.



No.	Height Inches	Diameter Inches	Shipping Weight Pounds	Capacity Gallons	Price Each
30	23	71/2	42	40-52	\$25.00

Bull's Eye Gas Water Heaters

This heater is built upon a new principle. Water completely surrounds the heat chamber so no heat escapes. As a result more hot water is produced with less gas and no heat adds further discomfort to kitchen or bath room in hot weather.

The water jacket and heat chamber are made of Dunite metal, a non-corrosive, strong and durable metal, and heavily galvanized with zinc, inside and out. Provided with a drain faucet for removing sediment.

The 2-piece construction insures against repairs. The outer water jacket and inner heat chamber are securely fastened together. The large water passage between jacket and heat chamber will not lime nor fill up and gives a rapid flow of water. Non-flash back gas burner is readily accessible through door.

Made in one size only. Designed for use with 30 to 60-gallon tanks, but may be used on larger tanks. For unusual requirements, 2 or more heaters may be grouped.

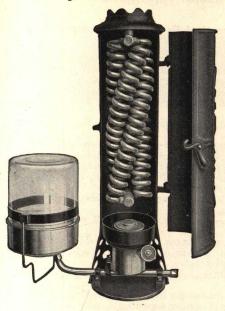
Recommended for heating houses, stores, garages, cottages and similar buildings as well as for water heating. Standard boiler rating for heating purposes: 120 square feet for steam; 200 square feet for hot water.

Connections: water, ¾-inch iron pipe; gas, ½-inch iron pipe; flue, 3-inch pipe.

Height of Heaterinches	21
Height Over Allinches	31
Diameterinches	8
Weightpounds	40.
Priceeach	



Holyoke Kerosene Water Heaters



The Holyoke Kerosene Heat-er contains 32 f e e t of heavy copper coils and is so constructed that the hot gases strike the coils many times before reaching the vent pipe. will produce hot water very rapidly and is economical.

According to tests, 1 gallon of kerosene oil will last from 12 to 24 hours of con-

tinuous burning.
The shell of the heater is of cast iron and made in three principal parts, front, back and cap. A cast iron

plate supporting the burner is fitted to the base of the heater. The half turn of the coils baffles the rising heated gases thus utilizing much heat which would otherwise go to waste.

The heater can be attached to any size tank and can be

used in connection with or without coal range.

Diameter of shell, 6 inches. Diameter of base, 8 inches. Space required for base and reservoir, 9x17 inches. Height, 2814 inches. Net weight, 40 pounds. Shipping weight (crated), 55 pounds.

Electric Weld New Style Range Boilers

Standard and Extra Heavy Horizontal and Vertical



Standard

Working pressure, standard, up to 85 pounds; extra heavy, up to 150 pounds.

These range boilers have five 1-inch tappings as follows: One side tapping 6 inches from the top; one 6 inches from the bottom (measurements to be made from the edge of the shell plate); two tappings in the top, and one in the bottom.

Standard weight boilers will be shipped unless otherwise specified.

Approx. Capacity Gallons	Diam. Inside of Shell Inches	Length of Shell Feet	Price, Each Standard or Extra Heavy
18	12	3	\$14.50
24	12	4	15.75
30	12	5	19.00
32	14	4	21.00
40	14	5	24.00
42	16	4	26.00
52	16	5	31.00
66	18	5	38.00
82	20	5	45.50
100	22	5	63.50
120	24	5	72.50
144	24	6	103.00
100	o.i	0	
192	24	8	132.00

Hawks Universal Boiler Stands

This stand will fit any size or make of boiler. It can be screwed into the bottom of the boiler and the locknut plate can be turned against the bottom of the boiler. It is neat and strong, and will support any boiler from 6 to 100 gallons capacity. The Tee is of malleable iron, hot galvanized inside and out. The stand is adjustable to any height by use of 11/4-inch pipe cut to length desired.

Tee furnished with outlets 3/4x3/4, $\frac{3}{4}x\frac{1}{2}$ or $1x\frac{3}{4}$ inches.

Each stand is packed complete. Price, with Regular Length Nipple each \$3.00



Sanders Adjustable Boiler Stands



This boiler stand requires no ring. The design is neat and strong and the stand is easily adjusted.

The legs for each size are interchangeable, any three legs will make a complete stand.

Only three sizes are required for the range of boilers from 18 to 192 gallons.

Packed in barrels.

G:	For Boiler	PRICE	E, EACH
Size No.	Capacity Gallons	Plain	Galva- nized
1	18 to 40	\$.60	\$1.20
2	42 to 66	2.00	4.00
3	82 to 192	2.75	5 50

No. 1720 Ring Adjustable Boiler Stands



					e la		
Size	For			Size	For		
Ring	Boiler	PRICE.	EACH	Ring	Boiler	PRICE	EACH
In.	Gal.	Plain	Galv.	In.	Gal.	Plain	Galv.
12	18-30	\$1.25	\$2.50	20	82- 98	\$3.00	\$6.00
14	35-40	1.40	2.80	22	100-120	3.50	7.00
16 -	42 - 52	1.75	3.50	24	120-192	4.00	8.00
18	53-79	2.50	5.00			SI BUT IN	

Lawson Thermostatic Valves

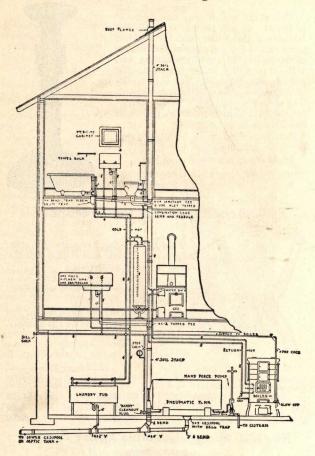


Maintains a constant uniform supply of hot water by increasing or diminishing flow of gas to burners, providing the advantage of an automatic storage system when installed in boiler.

No 3 recommended for natural gas only. No. 5A designed for single burners of capacities up to 50 cubic feet of gas per hour where gas pressure is uniform. No. 10A is of large ca-pacity, recommended for all heaters installed in sections where gas pressure is low or where it varies.

No.	Water Conn. In.	Gas Conn. In.	Price Each	No.	Water Conn. In.	Gas Conn. In.	Price Each
3A	1	3/8	\$8.50	10A	.1	1/2	\$20.00
5A.	1	1/2	12.00				

Plumbers' Checking List



A guide for selecting the proper fixtures and fittings, and a checking list to see that none is omitted. The illustration shows the plumbing and pneumatic fixtures for the ordinary city or country residence

city or country residence.	
1—Bath Tub and Fittings	32—Pumps
2—Lavatories and Fittings	33—Black Pipe and Fittings
3—Basin Cocks	34—Galvanized Pipe and
4—Basin Supplies	Fittings
5—Basin Chains	35—Sewer Pipe and Fittings
6—Glass Shelves	36—Pipe Hangers and Straps
7-Tumbler and Tooth	37—Lead Pipe
Brush Holders	38—Solder
8—Mirrors	39—Lead Bends
9—Medicine Cabinets	40—Combination Lead and
10—Soap Holders	Brass Soldering
11—Bath Tub Seats	Nipples
12—Shower Baths	41—Soil Pipe and Fittings
13—Bath Sprays	42—Calking Lead
14—Towel Bars	43—Oakum
15—Water Closets	44—Cleanout Plugs
16—Closet Flanges	45—Ferrules
17—Toilet Paper Holders	46—Traps
18—Sinks and Backs	47—Roof Flanges
19—Sink Bibbs	48—Soldering Nipples
20—Sink Brackets	49—Soldering Unions
21—Range Boilers	50—Floor Drains
22—Range Boiler Stands	51—Sill Cocks
23—Boiler Fittings	52—Catch Basin Covers
24—Boiler Tubes	53—Stop Cocks
25—Boiler Stop Cocks	54—Corporation Cocks
26—Sediment Cock	55—Goosenecks
27—Water Heaters	56—Curb Cocks and Boxes
28—Laundry Tubs	57—Terra Cotta
29—Bibbs and Stand	58—Cement
30—Water Supply System	59—Tools
31—Storage Tanks	

Useful Information

Valuable Practical Receipts and Compositions

Plumber's Solder.—Tin, 2 pounds, lead, 5 pounds. HARD Solder.—Copper, 1 pound, zinc, 8 ounces. YELLOW SOLDER.—Copper and zinc, equal parts.

Yellow Brass.—Zinc, 10 pounds, lead, 4 ounces, copper, 24 pounds.

Bronze Metal.—Antimony, 1 pound, tin, 100 pounds,

copper, 2 pounds.

SILVER COLORED METAL.—Tin, 50 pounds, bismuth, 1 pound, antimony, 3 pounds, copper, 3 pounds.

Imitation Silver.—Copper, 4 pounds, zinc, 4 ounces.
White Metal.—Copper, 5 pounds, zinc, 3 pounds, lead, 1 pound, tin, 1 pound.

METAL FOR TAKING IMPRESSIONS.—Bismuth, 3 pounds.

lead, 1 pound, tin, 8 ounces.
RIVET METAL.—Tin, 5 pounds, zinc, 2 pounds, copper,

10 pounds.

TINNING ACID FOR BRASS OR COPPER.—Muriatic acid, 1 pound, give it all the zinc it will dissolve; add 4 ounces of sal ammoniac, 1 pint water.

FOR TINNING BRASS.—Water, 4 gallons, salt, 1 pint, cream tartar, 1 pound.

MIXTURE FOR SILVERING METALS.—Dissolve 2 ounces of silver in 3 grains of corrosive sublimate, add salt, 8 quarts, tartaric acid, 4 pounds.

To Separate Silver from Copper.—Sulphuric acid, one part, nitric acid, one part, water, one part, then boil the metal in the mixture until it dissolves; add a little salt and the silver will subside.

COMMON PEWTER.—Tin, 4 pounds, lead, 1 pound.
QUEEN'S METAL.—Tin, 9 pounds, antimony, 1 pound, lead,
1 pound, bismuth, 1 pound.

Mock Platinum.—Copper, 4 pounds, zinc, 18 pounds.
Type Metal.—Lead, nine parts, antimony, two parts, bismuth, two parts.

CEMENT FOR STOPPING HOLES IN CAST IRON.—National Iron Filler Cement mixed with water until it is about the consistency of common paste, then it is ready for use. It should be kept in a dry place.

Proportions of Various Compositions in Common Use

BABBITT METAL.—Tin, 89, copper, 3.7, antimony, 7.3. FINE YELLOW BRASS.—Copper, 66, zinc, 34. GUN METAL VALVES.—Copper, 90, tin, 10. WHITE BRASS.—Copper, 10, zinc, 80, tin, 10. GERMAN SILVER.—Copper, 33.3, zinc, 33.4, nickel, 33.3. CHURCH BELLS.—Copper, 80, zinc, 5.6, tin, 10.1, lead, 4.3. Conden Bells.—Copper, 81.6, tin, 18.4.
Lathe Brushes.—Copper, 80, tin, 20.
Machinery Bearings.—Copper, 87.5, tin, 12.5.
Sheathing Metal.—Copper, 56, zinc, 44.

Safe Pressure on Bearings and Slides

Kind of Journal Bearing	Pressure per
Bearings on which the load is intermittent and	Sq. In. of
the speed slow, such as crank-pins of shearing	Projected Area Pounds
machines	3,000
Cross-head neck journals	1,300
Crank-pins of large, slow speed engines	800-900
Crank-pins of large, slow speed engines " marine engines, usually	400-500
Main crank-shaft bearings—marine engines	
(slow)	600
Main crank-shaft bearings—marine engines	
(fast)	400
Locomotive driving-axle journal	180-350
Railway journals	200
Fly-wheel shaft journals	150-250
Small engine crank pins	150-200
Slipper slide blocks marine engines	100
Stationary engine slide blocks " " " " " " " " " " " " " " " " " "	25—125
" " " usually	30— 60
Propeller thrust bearings	50- 70
Shaft in cast iron steps or seats	15
THE RELEASE DESCRIPTION OF THE PARTY OF THE	10

National Pipe



Two important processes have been developed, one of which makes the smaller sizes, 4-inch and under, of National Pipe more resistant to corrosion, while the other makes all National Butt-weld Pipe free from welding-scale. To the trade these are known as the Spellerizing and Scale Free processes, respectively.

Spellerizing is a method of treating metal, which consists in subjecting the heated bloom to the action of rolls having regularly shaped projections on their working surface, then subjecting the bloom while still hot to the action of smooth faced rolls and repeating the operation, whereby the surface of the metal is worked so as to produce a uniformly dense texture better adapted to resist corrosion, especially in the form of pitting.

Inasmuch as the Spellerizing process is entirely mechanical and does not in any way depend upon skilled labor, beyond keeping up the machinery involved, uniform treatment is assured. This process is applicable to the smaller sizes of pipe; such as 4 inches and under, although it is possible in special cases to Spellerize pipe a few sizes larger than 4 inches. This process is especially desirable for the smaller sizes on account of the thinner walls. The larger sizes, owing to their thicker walls, do not require as much extra work of this character.

The Spellerizing process produces a fine-grained, uniform, dense texture which is better adapted to resist corrosion than ordinary pipe.

By subjecting National Butt-weld Pipe to the recently evolved scale-removing process, the mill-scale, or welding-scale, which has long been considered inevitable on butt-weld pipe, is removed, leaving the surfaces of the pipe smooth and clean and giving a full interior diameter, and an ideal surface for a uniform and close adherence of galvanizing or other protective coatings. Thus the working capacity and the durability of the pipe are appreciably increased.

The National Scale Free Pipe is now made by practically the same process as heretofore used in making regular National Butt-weld Pipe, the chief difference being that the pipe is passed through a series of rolls in addition to the sizing and straightening rolls the first stand of rolls in this series reduces the size of the pipe by literally crushing the pipe down. Since the mill-scale, or welding-scale, is brittle and somewhat harder than the metal at this stage of manufacture, this crushing or distorting of the pipe loosens the scale and it falls off, leaving a clean surface. The pipe then passes to other rolls of this series, where it is further reduced in size; after cooling, the loose scale is washed out with water or blown out by compressed air, no acid pickling bath being used. The crop ends are then removed, the pipe threaded, tested and inspected in the manner as was customary with all National Butt-weld Pipe.

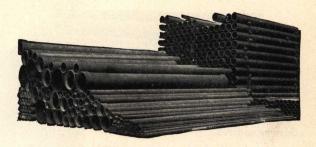
Additional advantages to those mentioned above, include: Elimination of the wear and tear on valves and fittings formerly caused by loose scale; better adaptation to exposed installations due to the clean, smooth surfaces; reduced frictional resistance and a further reduction of any tendency to corrosion caused by scale dropping away and leaving exposed surfaces.

In order that consumers may know positively they are receiving National Tube Company Pipe the name National is rolled, at regular intervals, on every length of welded tubular products manufactured, except on sizes under ½-inch where this is not mechanically feasible: on these smaller sizes the name National appears on the metal tag attached to each bundle of pipe.

National Standard Pipe

Black and Galvanized

Revised January 1, 1923



The permissible variation in weight is 5 per cent above and 5 per cent below.

Furnished with threads and couplings and in random lengths unless otherwise ordered.

Taper of threads is $\frac{3}{4}$ -inch diameter per foot length for all sizes.

The weight per foot of pipe with threads and couplings is based on a length of 20 feet, including the coupling, but shipping lengths of small sizes will usually average less than 20 feet.

On sizes made in more than one weight, weight desired must be specified.

For pipe smoothed on the inside, known as reamed and drifted, an extra charge will be made above standard pipe.

For galvanized, or coated pipe, an extra charge will be made above black.

On orders calling for commercial sizes of pipe which are finished with threads and couplings, in sizes ½ to 12-inch, inclusive, and where orders specify quantity in linear feet, it is understood that random lengths fitted with threads both ends and coupling one end will be supplied and the measurement is charged from end to end, that is over all, including coupling.

If cut lengths of any sizes are ordered, instructions must appear on the face of the order whether plain ends, threads only or threads and couplings are required. The pipe proper is cut to the length specified for plain ends or threads only, and if cut lengths with threads and couplings are specified, the practice is the same with the exception that the couplings are charged separately whether they are shipped loose or screwed on the pipe.

All Weights and Dimensions are Nominal

Size Inches 1/8 1/4 3/8 1/2 3/4 1 11/4 11/2	External . 405 . 540 . 675 . 840 1.050 1.315 1.660 1.900	1., INCHES Internal . 269 . 364 . 493 . 622 . 824 1 . 049 1 . 380 1 . 610	Thick-ness Inches .068 .088 .091 .109 .113 .133 .140	Plain End . 244 . 424 . 567 . 850 1.130 1.678 2.272 2.717	and Couples . 245 . 425 . 568 . 852 1.134 1.684 2.281 2.731	d Threads per Inch 27 18 18 14 14 11 11 11 11 11 11 11 11 11 11 11	Frice per Foot \$.051/2 .06 .06 .081/2 .111/2 .23
1½ 2 2½ 3 3½ 4 5 6 8 8 10 10 10 12	1.900 2.375 2.875 3.500 4.500 5.563 6.625 8.625 8.625 10.750 10.750 10.750 12.750	1.610 2.067 2.469 3.068 3.548 4.026 5.047 6.065 8.071 7.981 10.192 10.136 10.020 12.090	.145 .154 .203 .216 .226 .237 .258 .280 .277 .322 .279 .307 .365 .330	2.717 3.652 5.793 7.575 9.109 10.790 14.617 18.974 24.696 28.554 31.201 34.240 40.483	2.731 3.678 5.819 7.616 9.202 10.889 14.810 19.185 25. 28.809 32. 35. 41.132	111/2 111/2 8 8 8 8 8 8 8 8 8 8	.27 ¹ / ₂ .37 .58 ¹ / ₂ .76 ¹ / ₂ .92 1.09 1.48 1.92 2.50 2.88 3.20 3.50 4.12
12	12.750	12.	.375	43.773 49.562	45. 50.706		4.50 5.07

National Extra Strong and Double Extra Strong Pipe

Black and Galvanized Revised January 1, 1923



Furnished with plain ends and in random lengths unless otherwise ordered.

Random length of extra strong and double extra strong pipe is considered to be 12 feet to 22 feet, we to have the privilege, however, of supplying not exceeding 5 per cent of total order in lengths from 6 to 12 feet.

For pipe fitted with threads only or with threads and couplings, an extra charge will be made above plain ends.

For cut lengths, an extra charge will be made above random.

For galvanized, or coated pipe, an extra charge will be made above black.

All Weights and Dimensions are Nominal

Extra Strong

				Weight	
			Thick-	Pounds	Price
Size	DIAMETI	er, Inches	ness	per Foot	per
Inches	External	Internal	Inches	Plain Ends	Foot
1/8	.405	. 215	.095	.314	\$.12
1/4	.540	.302	.119	. 535	$.07\frac{1}{2}$
3/8	.675	.423	.126	.738	.071/2
3/8 1/2 3/4	.840	. 546	.147	1.087	.11
3/4	1.050	. 742	.154	1.473	.15
1	1.315	.957	.179	2.171	.22
11/4	1.660	1.278	.191	2.996	.30
11/2	1.900	1.500	.200	3.631	.361/2
2	2.375	1.939	.218	5.022	.501/2
21/2	2.875	2.323	.276	7.661	.77
3	3.500	2.900	.300	10.252	1.03
31/2	4.	3.364	.318	12.505	1.25
4	4.500	3.826	,337	14.983	1.50
5	5.563	4.813	.375	20.778	2.08
6	6.625	5.761	.432	28.573	2.86
8	8.625	7.625	.500	43.388	4.34
10	10.750	9.750	. 500	54.735	5.48
12	12.750	11.750	.500	65.415	6.55

The permissible variation in weight is 5 per cent above and 5 per cent below.

Double Extra Strong

Size Inches	DIAMETER External	r, Inches Internal	Thick- ness Inches	Weight Pounds per Foot Plain Ends	Price per Foot
1/2	.840	.252	.294	1.714	\$.32
1/2 3/4	1.050	.434	.308	2.440	.35
1	1.315	.599	.358	3.659	.37
11/4	1.660	.896	.382	5.214	.521/2
11/2	1.900	1.100	.400	6.408	.65
2	2.375	1.503	. 436	9.029	.91
21/2	2.875	1.771	.552	13.695	1.37
3	3.500	2.300	.600	18.583	1.86
31/2	4.	2.728	. 636	22.850	2.30
	4.500	3.152	.674	27.541	2.76
4 5	5.563	4.063	.750	38.552	3.86
6	6.625	4.897	.864	53.160	5.32
8	8.625	6.875	.875	72.424	7.25

The permissible variation in weight is 10 per cent above and 10 per cent below.

Plain Ends All Weights and Dimensions are Nominal O. D. In. PRICE, PER FT., THICKNESS WALL, INCHES 1/4 \$3.68 \$4.57 \$5.46 \$6.34 \$7.21 \$8.01 15 3.94 4.91 5.86 6.81 7.75 8.61 16 4.21 5.24 6.26 7.28 8.28 9.21 17 4.48 5.57 6.66 7.74 8.82 9.81 18 4.74 5.91 7.06 8.21 9.35 10.42 11.62 10.00	,
O. D. In. 1/4 5/16 3/8 5/16 86.34 \$7.21 \$8.06 14 \$3.68 \$4.57 \$5.46 \$6.34 \$7.21 \$8.06 15 3.94 4.91 5.86 6.81 7.75 8.66 16 4.21 5.24 6.26 7.28 8.28 9.24 17 4.48 5.57 6.66 7.74 8.82 9.81 18 4.74 5.91 7.06 8.21 9.35 10.42 20 6.58 7.86 9.15 10.42 11.66 21 6.91 8.27 9.61 10.95 12.2 22 7.24 8.67 10.08 11.49 12.8 24 9.47 11.01 12.55 14.00 26 10.27 11.95 13.62 15.2 28 12.88 14.69 16.4 30 13.82 15.76 17.6 O. D. In. 5/8 11/16 3/4 7/8 1 11/4 14 \$8.93 \$9.78 \$10.62 \$12.27 \$13.89 \$15.4 15 9.60 10.51 11.42 13.20 14.96 16.6 16 10.27 11.25 12.22 14.14 16.03 17.8 17 10.94 11.98 13.02 15.07 17.09 19.0 18 11.60 12.72 13.82 16.01 18.16 20.2 20 12.94 14.19 15.42 17.88 20.30 22.6 21 13.61 14.92 16.23 22 14.27 15.65 17.03 24 15.61 17.12 18.63 26 16.94 18.59 20.23 28 18.28 20.06 21.83	,
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24 15.61 17.12 18.63	•
26 16.94 18.59 20.23 28 18.28 20.06 21.83	
20 10 61 21 53 23 43	
Weights	
O. D. In. Wt., Lbs. per Ft., Thickness Wall, In. 7/16	7
14 36.713 45.682 54.568 63.37	1
15 39.383 49.020 58.573 68.04	
16 42.053 52.357 62.579 72.71	
17 44.723 55.695 66.584 77.38	
18 47.393 59.032 70.589 82.00	
20 65.708 78.599 91.40 69.045 82.604 96.07	
4-	
72 72 .383 86 .609 100 .75 24 94 .619 110 .09	7
26 102.629 119.44	
28 128.78	7
30 138.13	2
O. D. Wt., Lbs. per Ft., Thickness Wall, In.	_
	Q
14 72.091 80.726 89.279 97.74 15 77.431 86.734 95.954 105.09	
16 82 771 92 742 102.629 / 112.43	
17 88 111 98 749 109 304 119 77	6
18 93.451 104.757 115.979 127.11	8
20 104.131 116.772 129.330 141.80	
21 109.471 122.780 136.005 149.14	
22 114.811 128.787 142.680 156.48 24 125.491 140.802 156.030 171.17	
24 125.491 140.802 156.030 171.17 26 136.172 152.818 169.380 185.85	
28 146.852 164.833 182.730 200.54	
30 157.532 176.848 196.081 215.23	9
O. D. Wt., Lbs. per Ft., Thickness Wall, In.	5
	5
14 106.134 122.654 138.842 154.69 15 114.144 132. 149.522 166.71	59 50 50

30 234.295

The permissible variation in weight is 10 per cent above or 10 per cent below.

149.522

160.202

170.882

181.562

202.923

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166.710

178.725

 $\frac{190.740}{202.756}$

226.786

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132.

141.345

150.690 160.035

178.725

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114.144 122.154

130.164

138.174

154.194

162.204 170.215

186.235

202.255

218.275

15

16

17

18

20

21

22 24

26

28

Pipe will be shipped in random lengths, plain ends, unless otherwise ordered.

For cut lengths, an extra charge above random will be made.

For threaded pipe an extra charge above plain end will be made.

Byers Genuine Wrought Iron Pipe

For Water, Steam, Air, Gas and Oil



Among Many Elements in the High Quality of Byers Wrought Iron Pipe Is the Care Used in Puddling or Refining Iron

Purchasers of pipe should note that we carry 2 kinds of welded pipe, namely:

(1) Genuine Wrought Iron Furnished Black or Galva-(2) Steel

nized.

In wrought iron pipe we carry only one make, Byers, which universally is conceded to be the highest grade wrought iron pipe obtainable.

Caution

When ordering pipe, do not use the term "wrought pipe" as it means both steel and iron and therefore means nothing in filling an order for pipe; say "steel" or "wrought iron" as the case may be. Also state whether black or galvanized.

Prices

The sizes and list prices of wrought iron pipe are the same as for steel pipe but different discounts apply as wrought iron pipe is a quality product used principally on account of its high rust resistance, and its manufacture involves a larger amount of costly hand labor.

Identifying Marks



Byers Pipe is easily identified by the spiral stripe painted on each length in red or other bright color. The spiral marking effectively prevents mistakes and substitution. In addition the Byers name and 2 figures indicating year of manufacture are rolled in the metal at intervals of 3 or 4 feet as shown in the illustration. Byers' name and weight (standard or extra heavy) stamped on every nipple.

Where to Use Byers Pipe

Byers Pipe is recommended for installation in permanent buildings of every description, where corrosion is a factor, as in plumbing and heating systems. Also for underground steam, water and gas piping. It should be pointed out that the cost of Byers Pipe, while somewhat higher than steel pipe, is a small item in the total installation cost of a pipe system, yet the life of the entire investment usually depends on the life of the pipe. If the pipe fails the whole system has to be replaced. Where pipes are concealed in walls, partitions and floors, failures are especially costly.

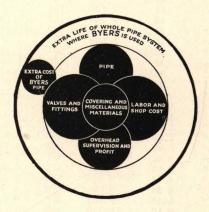
Instances are frequent where the rusting through of one single piece of pipe, in one spot, has caused damage to buildings and furnishings, amounting to 10 times more than the cost of all the piping in the whole building. The economy of using Byers Pipe cannot, therefore, be too strongly emphasized for office buildings, hotels, schools, residences, hospitals,

Installation Cost of Pipe

In the average plumbing, heating or power piping system, the cost of the pipe alone is only from 5 to 15 per cent of the installation cost.

Other items are shop cost, fittings, fixtures, valves, bends, labor of installing, supervision and overhead, making up from 85 to 95 per cent of the installation cost.

These items are the same whether wrought iron or steel pipe is installed and the extra cost of Byers Pipe, therefore, rarely adds over 10 per cent to the total cost of the pipe system installed.



The diagram above represents the items of cost in the aver-

It shows why the extra cost of Byers Pipe is insignificant compared with its extra life in service.

Its great rust-resistance insures against heavy replacement expense during the useful life of the system.

Service of Byers Pipe

For over 60 years A. M. Byers Company has produced the one product-wrought iron pipe-in strict adherence to a standard of purity of material and honesty of manufacture

established long before cheap pipe was known.

The record of the company is on millions of feet of pipe, installed under varying conditions during half a century, and still enduring.

No claims that A. M. Byers Company can make would offset this record if it were a poor one; and likewise no reasons that can be advanced for the superiority of Byers Pipe can be as convincing as the records of its long and satisfactory service.

Byers Genuine Wrought Iron Pipe

List Prices, Weights, Dimensions and Areas of Byers Pipe

Black and Galvanized
All Dimensions and Weights Are Nominal Standard Weight

					3		Standard Weight					
Size 1/4 3/8 1/2 3/4 1 11/4 11/2 2 11/4 2 21/2 3 31/2 4 41/2 5 6 7 8 8 9 10 10 10 11 12 12	Weld Butt a a a a a a a a a a a a a a a a a a	List Price per Foot \$.06 .06 .081/2 .111/2 .17 .23 .271/2 .33 .271/2 .37 .581/2 .76/2 .92 1.09 1.27 1.48 1.92 2.38 2.50 2.88 3.45 3.20 3.50 4.12 4.63 4.50 5.07	Outside Diam. Inches . 540 . 675 . 840 . 1.050 1.315 1.660 1.900 2.375 2.875 3.500 4.000 4.500 5.663 6.625 7.625 8.625 8.625 9.625 10.750 10.750 11.750 11.750 12.750	Thickness Inches 090 093 .111 .115 .136 .145 .148 .145 .148 .208 .221 .231 .242 .252 .263 .286 .307 .283 .329 .349 .284 .313 .372 .382 .386 .382	Inside Diam. Inches	Standard Weight Plain Ends Lbs. per Ft. 424 .567 .850 1.130 1.678 2.272 2.717 2.272 2.717 3.652 5.793 7.575 9.109 10.790 12.538 14.617 18.974 23.544 24.696 28.554 33.907 31.201 34.240 40.483 45.557 43.773 49.562 Extra H		Hydrostatic Test Lbs. 750 750 750 750 750 750 750 750 750 1000 100	Internal Circumference Inches 1.131 1.536 1.938 2.573 3.277 4.316 5.039 4.316 5.039 6.472 7.761 9.610 11.115 12.617 14.125 15.821 19.016 22.023 25.320 25.029 28.045 31.985 31.805 31.432 34.510 37.941 37.652	External Circumference Inches 1. 696 2. 120 2. 639 3. 299 4. 131 5. 215 5. 969 7. 461 9. 032 10. 995 12. 566 14. 137 15. 708 17. 477 20. 813 23. 955 27. 096 27. 096 30. 238 33. 772 33. 772 33. 772 36. 914 40. 055 40. 055	Area of Internal Diameter Sq. Inches . 102 . 188 . 299 . 527 . 854 . 1.483 . 2.021 . 1.483 . 2.021 . 1.483 . 2.021 . 1.483 . 2.021 . 3.333 . 4.753 . 7.349 . 831 . 12.667 . 15.873 . 19.919 . 28.776 . 38.600 . 51.017 . 49.860 . 62.589 . 81.402 . 80.491 . 78.619 . 94.767 . 114.554 . 112.808	Area of External Diameter Sq. Inches . 229 . 358 . 554 . 866 . 1.358 . 2.164 . 2.835 . 4.430 . 6.492 . 9.621 . 12.566 . 15.904 . 19.635 . 24.306 . 34.472 . 45.663 . 58.426 . 72.760 . 90.763 . 90.763 . 90.763 . 90.763 . 90.763 . 90.763 . 90.763 . 108.434 . 127.677 . 127.677
1/4 3/8 1/2 3/4 1 11/4 11/2 11/4 11/2 2 21/2 3 31/2 4 41/2 5 6 7 8 9 10 11 12	Butt a a a a a a a a a a a a	\$.071/2 .071/2 .11 .15 .22 .30 .361/2 .30 .361/2 .77 1.03 1.25 1.80 2.08 2.86 3.81 4.34 4.90 5.48 6.10 6.55	.540 .675 .840 1.050 1.315 1.660 1.900 1.900 2.375 2.875 3.500 4.000 4.500 5.563 6.625 7.625 8.625 9.625 10.750	.122 .129 .151 .157 .183 .195 .204 .195 .204 .223 .282 .306 .325 .344 .363 .383 .441 .511 .510 .510	. 295 .417 .539 .735 .949 1. 269 1. 491 1. 929 2. 311 2. 887 3. 350 3. 811 4. 275 4. 797 5. 743 6. 603 7. 604 8. 604 8. 729 10. 729 11. 729	.535 .738 1.087 1.473 2.171 2.996 3.631 2.996 3.631 5.022 7.661 10.252 12.505 14.983 17.611 20.778 28.573 38.048 43.388 48.728 54.735 60.075 65.415	.539 .743 1.091 1.484 2.185 3.024 3.676 3.024 3.676 5.086 7.790 10.382 12.687 15.193 17.842 21.012 28.902 38.490 43.879 49.461 55.750 61.175 66.666	750 750 750 750 750 1500 1500 2500 2500 2000 2000 2000 1800 1800 1500 1500 1500 1000	$\begin{array}{c} .927 \\ 1.310 \\ 1.693 \\ 2.309 \\ 2.973 \\ 3.987 \\ 4.684 \\ 3.987 \\ 4.684 \\ 6.060 \\ 7.260 \\ 9.070 \\ 10.524 \\ 11.973 \\ 13.430 \\ 15.070 \\ 18.042 \\ 20.744 \\ 23.888 \\ 27.030 \\ 30.565 \\ 33.706 \\ 36.848 \end{array}$	1.696 2.120 2.639 3.299 4.131 5.215 5.969 5.215 5.969 7.461 9.032 10.995 12.566 14.137 15.708 14.477 20.813 23.955 27.096 30.238 33.772 36.914 40.055	$\begin{array}{c} .068 \\ .137 \\ .228 \\ .424 \\ .707 \\ 1.265 \\ 1.746 \\ 1.265 \\ 1.746 \\ 2.924 \\ 4.194 \\ 6.546 \\ 8.815 \\ 11.409 \\ 14.352 \\ 18.073 \\ 25.901 \\ 34.250 \\ 45.411 \\ 58.143 \\ 74.344 \\ 90.413 \\ 108.054 \end{array}$	$\begin{array}{c} .229 \\ .358 \\ .554 \\ .866 \\ 1.358 \\ 2.164 \\ 2.835 \\ 2.164 \\ 2.835 \\ 2.164 \\ 2.835 \\ 2.430 \\ 6.492 \\ 9.621 \\ 12.566 \\ 15.904 \\ 19.635 \\ 24.306 \\ 34.472 \\ 45.663 \\ 58.426 \\ 72.760 \\ 90.763 \\ 108.434 \\ 127.677 \end{array}$
						ouble Ext						
Size 1/2 3/4 1 11/4 11/2 11/2 21/2 3 31/2 4 41/2 5 6 NO	Weld Butt " " " Lap " " " " " " " " " " " " " " " " " " "	List Price per Foot \$.32353752½656591 1.37 1.86 2.30 2.76 3.26 3.86 5.32 uplings for	Outside Diam. Inches . 840 1. 050 1. 315 1. 660 1. 900 2. 375 2. 875 3. 500 4. 000 5. 563 6. 625 Double Ex	Thickness Inches 307 318 369 393 411 447 565 615 651 690 727 768 884 tra Heav	Inside Diam. Inches . 226 . 413 . 576 . 874 1.078 1.078 1.480 1.742 2.270 2.697 3.119 3.546 4.028 4.857 y Pipe—fu	Standard Weight Plain Ends Lbs. per Ft. 1.714 2.440 3.659 5.214 6.408 6.408 9.029 13.695 18.583 22.850 27.541 32.530 38.552 53.160 arnished on	of Regularly furnished without threads and couplings	Hydrostatic Test Lbs. 1500 1500 1500 2500 2500 2500 2500 2500	Internal Circumference Inches . 710 1. 297 1. 809 2. 746 3. 387 4. 651 5. 473 7. 131 8. 473 7. 165 12. 654 15. 257	External Circumference Inches 2. 639 3. 299 4. 131 5. 215 5. 969 7. 461 9. 032 10. 995 12. 566 14. 137 15. 708 17. 477 20. 813	Area of Internal Diameter Sq. Inches	Area of External Diameter Sq. Inches .554 .866 .1.358 .2.164 .2.835 .2.835 .4.430 .6.492 .9.621 .12.566 .15.904 .19.635 .24.306 .34.472

Byers Genuine Wrought Iron Pipe

Weights, Dimensions and Areas of Byers Pipe

(All Dimensions and Weights are Nominal)

Line Pipe

Size 3/8 1/2 3/4 1 11/4	Outside Diameter Inches . 675 . 840 1.050 1.315 1.660	Thickness Inches . 093 . 111 . 116 . 136 . 145	Inside Diameter Inches . 489 . 617 . 819 1.043 1.369	Standard Weight Plain Plain Ends Lbs. per Ft 567 . 850 1.130 1.678 2.272	Standard Weight Threaded with Cou- pling Lbs. per Ft. . 570 . 860 1.140 1.700 2.300	Hydrostatic Test Lbs. 750 750 750 750 750 750 750	Internal Circum- ference Inches 1.536 1.938 2.573 3.277 4.316	External Circumference Inches 2.120 2.639 3.299 4.131	External Diameter Inches . 968 1.109 1.375 1.687	-Couplings- Length Inches 111/32 11/2 2 2 7/6	Weight Pounds . 137 . 187 . 425 . 612
11/	1 000	1.10					4.510	5.215	2.094	$2\frac{3}{4}$	1.000
1½ 2 2½ 3 3½	1.900 2.375 2.875 3.500 4.000	.148 .158 .208 .221 .231	1.604 2.060 2.460 3.059 3.538	2.717 3.652 5.793 7.575 9.109	2.750 3.750 5.900 7.700 9.250	† 1800 1500 1500 1500	5.039 6.472 7.761 9.610 11.115	$\begin{array}{c} 5.969 \\ 7.461 \\ 9.032 \\ 10.995 \\ 12.566 \end{array}$	2.375 2.937 3.562 4.187 4.750	$ \begin{array}{r} 31/8 \\ 35/8 \\ 41/8 \\ 41/4 \\ 43/8 \end{array} $	1.580 2.400 4.437 5.200 6.900
4 4 ¹ / ₂ 5 6 7	4.500 5.000 5.563 6.625 7.625	. 242 . 252 . 263 . 286 . 307	4.016 4.496 5.036 6.053 7.010	10.790 12.538 14.617 18.974 23.544	11.000 12.800 15.000 19.450 24.050	1500 1500 1500 1500 1500	$12.617 \\ 14.123 \\ 15.821 \\ 19.016 \\ 22.023$	14.137 15.708 17.477 20.813 23.955	5.250 5.812 6.375 7.500 8.656	$4\frac{3}{8}$ 5 5 5 $5\frac{3}{8}$ 6 $\frac{1}{4}$	7.500 10.062 11.000 16.500 24.300
8 8 9 10 10	8.625 8.625 9.625 10.750 10.750	. 283 . 329 . 349 . 284 . 313	8.059 7.967 8.927 10.181 10.124	24.696 28.554 33.907 31.201 34.240	25.550 29.350 34.750 32.750 35.750	1000 1200 1000 1000 1000	25.320 25.031 28.045 31.983 31.805	27.096 27.096 30.238 33.772 33.772	9.500 9.500 10.812 11.937 11.937	6 ¹ / ₄ 6 ¹ / ₄ 6 ⁷ / ₈ 7	24.000 24.000 37.000 44.000 44.000
10 11 12 12	10.750 11.750 12.750 12.750	.372 .382 .336 .382	10.005 10.985 12.077 11.985	40.483 45.557 43.773 49.562	41.850 47.050 45.450 51.150	1000 1000 1000 1000	31.432 34.510 37.941 37.652	33.772 36.914 40.055 40.055	11.937 12.968 13.937 13.937	7 7 7	44.000 48.000 51.500 51.500

†1½ and 1½-inch B. W. 1200 lbs., L. W. 1500 lbs.

Prices on Oil Well Tubing, Casing, Line Pipe and Drive Pipe will be furnished on application.

Large O. D. Pipe, Plain Ends, Weight per Foot

Size 0	D. 1/4	5/16	3/	7/16	1/	THICKNE	SS WALL, INC						
	/ 4		53.510	62 149	70 601	9/16	5/8	11/16	3/4	7/8	1	11/8	
15	38.618	48 069	57 437	66 723	75 000	95 051	94 092	95.851	104.074	120.274	136.147	151.692	Prices
16	41 237	51 341	61 364	71 205	91 164	00 040	100.637	110.251	111.928	129.438	146.620	161.692 163.474 175.256	on
18	46.473	57.887	69.219	80.469	91.637	102.724	113.728	124.651	135.492	156.929	178.038	175.256 198.820	Applica-

Number of Feet per Ton-Number of Feet per Minimum Car Load

							Jui Loau		
G.	Thread and Coupling Weight per	Approximate Number of	APPROXIMATI FEET PER	E NUMBER OF CARLOAD OF		Thread and Coupling	Extra Heavy Approximate	Approximat	TE NUMBER OF
Size	Foot, Lbs.	Feet per Ton	36000 Lbs.	46 000 Lbs.	Size	Weight per Foot, Lbs.	Number of	FEET PER	CARLOAD OF
1/4	.425	4705	85000	109000	1/4		Feet per Ton	36 000 Lbs.	46 000 Lbs
3/8	. 568	3521	64000	82000	3/	. 539	3710	67500	86000
1/2	. 852	2347	42500	54500	1/8	.743	2688	49000	62500
3/8 1/2 3/4	1.134	1763	32000	41000	3/8 1/2 3/4	1.091	1829	33200	42500
1	1.684	1187	21500	28000	3/4	1.484	1344	24500	31200
11/4	2.281	876	16000		1	2.185	910	16600	21200
11/2	$\frac{2.731}{2.731}$	732	13250	20500	11/4	3.024	661	12000	15350
2	3.678	543		17000	11/2	3.676	543	10000	12700
21/2	5.819	343	10000	12800	2	3.024	392	7200	9200
3	7.616		6200	7950	21/2	3.676	258	4710	
		262	4750	6100	3	5.086	192	3520	6100
31/2	9.202	217	4000	5120	31/2	7.790	157	2880	4500
4	10.889	183	3300	4220	4	10.382	131		3680
41/2	12.642	158	2850	3650	41/2	12.687	112	2400	3075
5	14.810	135	2450	3140	5	15.193		2050	2650
6	19.185	104	1880	2410	6		95	1740	2220
7	23.769	84	1520	1950	7	17.842	69	1265	1615
8	25.000	80	1440	1840	8	21.012	51	950	1210
8	28,809	69	1250	1595	9	28.902	45	835	1060
9	34.188	58	1054	1350		38.490	40	740	950
10	32.000	62	1125	1440	10	43.879	35	660	845
11	46.247	43	780	1000	12	49.461	30	560	700
12	50.706	39	710			55.750			
	JJ. 100	00	110	910		61.175			
						66.666		The Target	

American Spiral Riveted Plain End Pipe



When ordering, information should be given as to use for which pipe must be suitable, working pressure, size wanted and quantity, whether used for special or high temperature work, if for water, whether gravity or pumping, whether buried in ground, laid on surface, or hung from structure.

Working pressure should not be more than 25 per cent of

Work	king pres	ssure should	not be mor	re than 25 per	cent of
Price	mate str	ength or burs plain end pip	e without f	langes	
11100	s are for	Approx.	Approx.	in Soon	
Ingido	Thickness	Weight Asphalted	Bursting Strength	PRICE, PER	Гоот
Inside Diameter	U. S. S.	per Foot	per Sq. In.	Asphalt	Galvan-
Inches 3	Gauge	Pounds	Pounds 2000	Coated \$.39	\$.53
4	18 16	2.3 3.7 4.5 5.3 6.6	1875	.52	.73
5 6 6 7 7 7 8 8 8 9	16 16	4.5	$\frac{1500}{1250}$.63	1.04
6	*14	6.6	1560	.87	1.21
6	†12 16		2170 1070	1.15	1.61
7	*14	6.2 7.7 10.7	1340	1.01	1.41
7	†12 16	10.7	1860 935	1.34	1.88
8	*14	XX	1170	1.16	1.62
8	†12 16	12.3	1640 835	1.54	2.17 1.56
9 -	*14	8.0 9.9	1045	1.30	1.81
9	†12 16	13.9	$\frac{1460}{750}$	1.74	2.45 1.73
10	*14	8.8 11.0	935	1.45	2.01
10 11	†12 16	15.3 9.7	1310 680	1.91	2.69 1.90
11	*14	12.0	850	1.58	2.20
11 12	†12 16	$\frac{16.6}{10.6}$	$\frac{1200}{625}$	2.08	2.92
12	*14	13 0	780	1.72	2.40
12 12	†12 10	18.2 22.5	$\frac{1080}{1410}$	2.27	3.19
13	14	14.1 19.7	720	1.86	2.59 3.45
13 13	*12 †10	19.7 24.5	$1010 \\ 1295$	2.46 2.99	4.22
14	14	15 9	670	2.00	2.91 3.89
14	*12 †10	27.6	$\frac{940}{1210}$	2.77	4.75
15	14	22.2 27.6 17.0 23.7	625	2.17 2.97	3.12 4.16
15 15	*12 †10	29.6	$875 \\ 1125$	3.62	5.10
16	14 *12	18.1	585 820	2.36 3.15	3.33
16 16	†10	$\frac{25.2}{31.5}$	1050	3.85	5.42
16	8	$\frac{38.1}{44.7}$	$\frac{1290}{1520}$	4.66 5.47	6.54
16 18	14	19.9	520	2.63	3.66
18	*12 †10	$\frac{27.6}{34.5}$	730 940	3.40 4.22	4.84 5.95
18 18	8	41.6	1140	5.09	7.16
18 20	6 14	$\frac{49.0}{22.1}$	$\frac{1360}{470}$	6.00 2.92	8.41
20	*12	30.6	660	3.82	5.37
20	†10 8	38.3	840 1030	4.68 5.65	6.59 7.94
20	6	$\frac{46.2}{54.1}$	1220	6.62	9.28
22	*12 *10	33.7	595 765	4.21 5.15	5.91 7.26
22	†8	42.2 50.8	940	6.22	8.73
22 24	6 12	59.5 36.5	1108 540	7.28	10.21 6.41
24	*10	45.7	705	5.59	7.88
24	† 8	$ \begin{array}{c} 55.2 \\ 64.6 \end{array} $	820 1015	6.75 7.90	9.48
26	12	39.5	505	4.94	6.94
26 26	*10 † 8	49.5 59.8	650 795	6.05 7.30	8.53
26	6	70.0	935 605	8.56	12.01 8.90
28 28	* 8	51.7 63.6	735	6.32 7.78	10.93
28	† 6 10	76.6	870 560	9.37 6.94	13.14 9.78
30	*8	56.8 68.7	685	8.39	11.80
30	† 6 10	80.5	810	9.84	13.80 10.60
32 32	* 8	$\frac{61.6}{74.3}$	525 645	7.53 9.10	12.76
32	† 6 10	87.1 65.4	760 490	10.65 8.00	14.93 11.25
34	* 8	78.8	600	9.63	13.53
34	† 6 10	93.6 69.1	715 470	11.45 8.45	16.06 11.90
36 36	* 8	83 4	570	10.20	14.33
36	† 6 10	97.8	680 445	11.96 8.91	16.77 12.55
38	* 8	88.1	540	10.75	15.10
38	† 6	103.2	$\frac{640}{420}$	12.62 9.37	17.69 13.20
40	* 8	92.4	515	11.29	15.87
40	† 6	108.5	610 400	13.27 9.83	18.60 13.85
42	* 8	80.9 97.2 114.0	490	11.84	16.64
42	† 6	114.0 †Double extr	580	13.93	19.52
TAXOL	a heavy.	Double exu	a nouvy.		

Pipe Cutting and Fitting

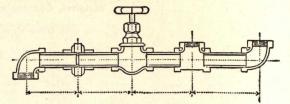


Diagram Showing Screwed Valves and Fittings

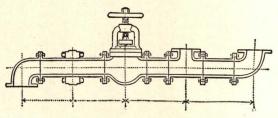


Diagram Showing Flanged Valves and Fittings

We are in a position to furnish quickly pipe cutting, threading and fitting all sizes of pipe to order.

In laying out work of this kind, great care should be taken in making sketches. All measurements should be given center to center as shown in diagrams. It is also necessary to know for what purpose the pipe is to be used and pressure required to stand.

If flanged fittings are to be used state if desired drilled and if with bolts and gaskets complete. Flanges, flanged fittings and valves are drilled in multiples of four, so that they may be made to place in any quarter and bolts straddle the center line. It is always advisable to send templates when drilling of valves or fittings is required.

Cuts and Threads for Standard Wrought Pipe

Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
1/8 1/4 3/8	\$.05 .05 .05	$1\frac{1}{4}$ $1\frac{1}{2}$ 2	\$.07 .08 .10	4 4 ¹ / ₂ 5	\$.35 .45 .55	9 10 12	\$1.25 1.50 2.50
1/2 3/4	.05	21/2	.15	6	.70 .85	2/	
1	.06	31/2	.25	8	1.00	7.	
				TI			

Locknut Threads

Size In.	Price Each	Size In.	Price Each	Size In.	Price Each	Size In.	Price Each
1/4	\$.10 .10 .10	3/4	\$.10		\$.16		\$.40
3/8	.10	1	.12	2	.20	31/2	.50
1/2	.10	11/4	.14	21/2	.30	4	.78

Locknut Nipples

Made to order and charged as cut pipe, threads extra.

Drilling and Tapping Pipe Headers

Made from Either 3 or 4-inch Pipe

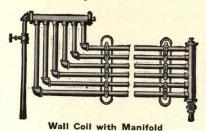
Size, Hole Iron Pipe		OLE, DRILLED ED, EACH	Size, Hole Iron Pipe	PRICE, PER H	OLE, DRILLED PED. EACH
Inches	Standard	Ex. Heavy	Inches	Standard	Ex. Heavy
1/2 3/4	\$.15	\$.18	1	\$.20	\$.25
3/4	.15	.18	11/4	.25	.30

Drilling and Tapping Pipe Headers

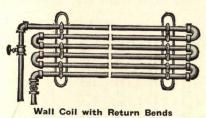
Made from Either 5 or 6-inch Pipe

Size, Hole Iron Pipe		Hole, Drilled PED, EACH	Size, Hole Iron Pipe	PRICE, PER HO	DE, DRILLED PED, EACH
Inches	Standard	Ex. Heavy	Inches	Standard	Ex. Heavy
1/2	\$.18	\$.20	$\frac{11/4}{11/2}$	\$.30	\$.35
1/2 3/4	.18	.20	11/2	.40	.45
1	.25	.30	2	.45	.50

Pipe Coils



We own and operate in connection with our general supply business and mechanical department a thoroughly equipped, modern and up-to-date pipe shop, and are prepared to furnish promptly pipe cut and threaded to sketch or order in any size from ½-inch to 16-inch.



The pipe shop is thoroughly equipped with the latest pipe machines and with drill presses, etc., so that we can handle all sizes of pipe work, both screwed and flanged. Experienced workmen are employed, and work of this class is given special and prompt attention.

Accuracy and promptness assured.

Our facilities for cutting, threading, drilling and tapping pipe used in construction of coils, etc., are complete in every detail. Estimates furnished upon application.

Steel Flag Poles

Black and Galvanized



For parks, schools, colleges, country clubs, play grounds, public buildings, private buildings, etc.

Made from black or galvanized wrought steel pipe of different sizes.

Each joint is properly telescoped, strongly pinned and then welded, which reinforces the joints and also prevents water from entering the joint and causing rust.

For setting in a concrete foundation or on roofs.

Fitted at top with hook and pulley.

Steel cord and rope hitch for fastening cord is included.

Ball ornament is supplied for top, which is made of copper.

The flag pole is attractive and durable and practically any size and length desired can be furnished.

Poles can be furnished in lengths 20 feet to 100 feet over all.

Shipments are made in sections not to exceed 36 feet in length.

Prices upon application.

Wrought Iron Couplings





Standard Couplings

~-		Standard	Couplings		
Size Pipe	Nominal			- PRICE, EACH	
Inches	O. D. Inches	Length Inches	R H		R. & L
1/8	19	15/16	Black	Galv.	Black
1/	32	716	\$.05	\$.06	
3/4	29	$1\frac{1}{3}$.05	.06	\$.07
1/8	32	$1\frac{5}{32}$.06	.08	.08
1/2	1/16	15/16	.07	.10	.11
3/4	$1\frac{11}{32}$	19/16	.10	.13	.15
1	15/8	113/6	.13	.18	.20
11/4	$1\frac{31}{22}$	21/16	.17	.25	.25
11/2	249	25/16	.21	.32	.30
2	$2\frac{23}{33}$	29/6	.28	.40	.50
21/2	25/	07/	.40		
3	3/16	2/8		.55	.85
31/2	47/	3/16	.60	.80	1.20
3/2	4 16	3/16	.80	1.05	1.60
4	41/16	37/16	1.00	1.40	2.00
41/2	$5\frac{17}{32}$	35/8	1.50	2.00	
5	$6\frac{1}{4}$	41/8	1.65	2.25	
6	$7\frac{9}{32}$	41/8	2.40	3.25	A A CAN
7	8 9	41%	3.25		
8	91/4	45%	4.25		
9	105/16	51%	5.50	****	••••
10	115/8	61%	7.50		
12	137/8	61/8	10.00		
14		-/0	10.00		
312.6 H			y Coupling	IS	
3/8	.95	11/2	\$.14	\$.20	
1/2	1.13	17/8	.14	.20	\$.20
1/2 3/4	1.44	$\frac{21}{8}$ $\frac{23}{8}$.20	.25	.30
1	1.63	23%	.26	.32	.40
11/4	2.07	25%	.34	.42	.45
11/2	2.31	27%	.42	.55	
2 2	2.81	27/8 31/8			.55
21/2	3.31	31/3	.56	.75	.70
			.80	1.05	
3	4.00	311/16	1.20	1.50	
31/2	4.63	41/4	1.60	1.90	
4	5.13	41/4	2.00	3.00	
	Hydra	ulic Rece	ssed Coup	lings	
3/2	.95	11/4	\$.25	\$.30	
1/2	1.13	17/			• • • •
37		1/8	.25	.30	
1/4	1.44	21/8	.30	.35	
1	1.63	23/8	.35	.40	
11/4	2.07	25/8	.45	.55	
11/2	2.31	27/8	.55	.70	The state of
2	2.81	27/8 31/8	.70	.90	CLUMPINE.
21/2	3.31	31/2	.95	1.20	8 17 1

Wrought Iron Long Screws



4.00

4.63

31/2

Furnished with coupling and locknut faced. Long screws, longer than standard, furnished on

2.15

special order and charged as cut pipe, with threads, couplings and locknuts extra.

Pipe Inches	Length	PRICE,		Size Pipe	Standard Length	Price	в, Елен
	In.	Black	Galv.	Inches	In.	Black	Galv.
1/4	$\frac{21/2}{3}$	\$.30	\$.35	11/2	51/2	\$1.30	\$1.60
1/8		.35	.40	2	6	1.70	2.10
3/8 1/2 3/4	$3\frac{1}{2}$.40	.50	21/2	7	2.70	3.10
3/4	4	. 55	. 66	3	8	3.70	4.70
1	$4\frac{1}{2}$.75	1.00	31/2	81/2	5.40	6.50
11/4	5	1.00	1.25	4	9	6.60	7.75
In	ordering	, specify	length o	of thread	wanted.		

Wrought Nipples

Black Right-hand Nipples





W	W	N		Ň	
M	00		11	N	١
C	lo	se			

PRICE, EACH Close or Short Lo LENGTH, INCHES Long Size Inches Close Short Long 1/8 1/4 3/8 $1\frac{1}{2}$ $1\frac{1}{2}$ $1\frac{1}{2}$ 2, 2, 2, $2\frac{1}{2}$, 3, $2\frac{1}{2}$, 3, $2\frac{1}{2}$, 3, $2\frac{1}{2}$, 3, \$.04 \$.06 .04 .06 .04 .06 .05 .07 .06 .09 .08 .13 .11 .17 .20 .13 .18 .27 2½ 3 3½ 3 .39 .59 .48 .72 1.05 .85 1.20 1.70 41/2 1.55 2.45 5, 5½, 6, 6½ 5½, 6..... 5½, 6..... 1.85 2.90 41/2 678 3.20 3.55 3.60 4.05 5 5.25 10 6.75 • • • • • 8.00

Extra Long Black Right-hand Nipples



	_	2			PRICE,				
Size Inches	4	5	6	7	-Length,	INCHES-	10	11	12
		\$.08			\$.14	\$.15	\$.17	\$.18	\$.19
		.08			.14		.17	.18	.19
	.07		.10	.12	.14	.15	.17	.18	.19
1/2 3/4	.08	.10	.12	.14	.16	.18	.20	.22	.23
3/4		.11	.13	.17	.18	.20	.22	.24	.26
1			.18	.23	.25	.28	.31	.34	.36
11/4		.20	.24	.29	.33	.36	.40	.44	.47
11/2		.25	.29	.36	.40	.45	.50	.54	.59
2		.32	.38	.50	.54	.59	.65	.72	.77
21/2		*	.68	.90	.97	1.06	1.17	1.26	1.35
3			.85	1.08	1.20	1.33	1.45	1.58	1.70
31/2				1.30	1.45	1.60	1.75	1.90	2.05
4				1.52	1.69	1.87	2.05	2.22	2.40
41/2				2.25	2.50	2.75	2.95	3.17	3.40
5				2.53	2.83	3.10	3.35	3.60	3.85
6				3.05	3.35	3.70	4.00	4.30	4.65
7	/			4.05	4.45	4.90	5.30	5.75	6.15
8				4.55	5.05	5.50	6.00	6.50	7.00
9	1.				6.50	7.10	7.75	8.40	9.00
10					8.25	8.90	9.70	10.40	11.15
12					10.00	10.80	11.75	12.70	13.65

Wrought Nipples

Black Right and Left-Hand Nipples

Size		T.EN	GTH, INCHES-		Close or	EACH——
In.	Close	Short	Lo	ong	Short	Long
1/8	3/4	11/2	$2, 2\frac{1}{2},$	3, 31/2	\$.05	\$.08
1/4	7/8	11/2	$2, 2\frac{1}{2},$	$3, 3\frac{1}{2}$.05	.08
3/8	1	$1\frac{1}{2}$	$2, 2\frac{1}{2},$	$3, 3\frac{1}{2}$.05	.08
1/2	$1\frac{1}{8}$	$1\frac{1}{2}$	$2, 2\frac{1}{2},$	$3, 3\frac{1}{2}$.07	.10
3/4	$1\frac{3}{8}$	2	$2\frac{1}{2}$, 3,	$3\frac{1}{2}$, 4	.08	.12
1	$1\frac{1}{2}$	2	$2\frac{1}{2}$, 3,	$3\frac{1}{2}$, 4	.11	.18
11/4	$1\frac{5}{8}$	$2\frac{1}{2}$	$3, 3\frac{1}{2},$	$4, 4\frac{1}{2}$.15	.23
$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{2}$	3, 31/2,	$4, 4\frac{1}{2}$.18	.27
2	2	$2\frac{1}{2}$	$3, 3\frac{1}{2},$	$4, 4\frac{1}{2}$.24	.36
21/2	$2\frac{1}{2}$	3	$3\frac{1}{2}$, 4,	$4\frac{1}{2}$, 5	.52	.79
3	$2\frac{5}{8}$	3	$3\frac{1}{2}$, 4,	$4\frac{1}{2}$, 5	.65	. 96
31/2	23/4	4	$4\frac{1}{2}$, 5,	$5\frac{1}{2}$, 6	1.00	1.40
4	27/8	4	$4\frac{1}{2}$, 5,	$5\frac{1}{2}$, 6	1.15	1.60

Extra Long Black Right and Left-Hand Nipples

]	PRICE, EA	CH-			
4	5	6	7	8	9	10	11	12
\$.09	\$.11	\$.13	\$.16	\$.18	\$.20	\$.23	\$ 25	\$ 27
.09	.11	.13	.16	.18	.20	.23	.25	.27
.09	.11	.13	.16	.18	.20	.23	.25	.27
.11	.13	.16	.18	.21	.24	.27	.29	.31
	.15	.17	. 23	. 25	.27	.29	.32	.35
	.20	.24	.31	.33	.37	.41	.45	.48
	.27	.32	.39	.45	.50	. 55	.60	. 65
	.34	.39	.48	. 52	. 60	.67	.72	.80
	.43	.51	. 67	.72	.80	.87	. 96	1.03
		.91	1.20	1.30	1.40	1.55	1.68	1.80
		1.13	1.44	1.60	1.77	1.93	2.10	2.27
			1.75	1.95	2.15	2.35	2.55	2.75
			2.00	2.25	2.50	2.75	3.00	3 25
	.09	.09 .11 .09 .11 .11 .13 15 20 27 34 43	\$.09 \$.11 \$.13 .09 .11 .13 .09 .11 .13 .11 .13 .16 15 .17 20 .24 27 .32 34 .39 43 .51 91 13	4 5 6 7 \$.09 \$.11 \$.13 \$.16 .09 .11 .13 .16 .09 .11 .13 .16 .11 .13 .16 .1815 .17 .2320 .24 .3127 .32 .3934 .39 .4843 .51 .6791 1.20113 1.44 1.75	LENGTH, IN LENGTH, IN	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Length Inches	Length Inches

Add 60 per cent to above prices for galvanized right and left nipples.

Galvanized Right-Hand Nipples

Size		T.E	Close or	EACH——	
In.	Close	Short	NGTH, INCHES Long	Short	Long
1/8	3/4	11/2	$2, 2\frac{1}{2}, 3, 3\frac{1}{2}$	\$.06	\$.11
1/4	7/8	11/2	$2, 2\frac{1}{2}, \ 3, 3\frac{1}{2}$.06	.11
3/8	1	11/2	$2, 2\frac{1}{2}, 3, 3\frac{1}{2}$.06	.11
1/2	11/8	11/2	$2, 2\frac{1}{2}, \ 3, 3\frac{1}{2}$.06	.11
3/4	13/8	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4	.08	.14
1	11/2	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4	.11	.19
11/4	15/8	21/2	3, 3½, 4, 4½	.17	.29
11/2	13/4	21/2	3, 31/2, 4, 41/2	.21	.35
2	2	$2\frac{1}{2}$	$3, 3\frac{1}{2}, \ 4, 4\frac{1}{2}$.27	.47
21/2	$2\frac{1}{2}$	3	31/2, 4, 41/2, 5	.56	. 86
3	25/8	3	$3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5	.70	1.10
31/2	23/4	4	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6	1.20	1.70
4	27/8	4.	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6	1.35	1.87
41/2	27/8	4	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6	1.85	2 60
5	3	41/2	5, 51/2, 6, 61/2	2 30	3.15
6	31/8	41/2	5, 5½, 6, 6½	2.80	4.25
7	31/4	5	51/2, 6	4.25	4 95
8	$3\frac{1}{2}$	5	5½, 6	5.00	5.80

Extra Long Galvanized Right-Hand Nipples

Size					PRICE, E				
In.	4	5	6	7 Li	ength, In	9	10	11	12
1/8	\$.12	\$ 15	\$.17	\$.21	\$.24	\$.26	\$.29	\$ 31	\$ 34
1/4 3/8	.12	.15	.17	.21	.24	.26	.29	.31	.34
3/8	.12	.15	.17	.21	.24	.26	.29	.31	.34
1/2 3/4	.13	.16	.18	.23	.26	.28	.31	.33	.36
3/4		.18	.21	.26	.29	.32	. 35	.38	.41
1		.24	.28	.34	.38	.42	.47	.51	. 55
11/4		.32	.38	.45	.51	.57	. 63	.69	.75
11/2		.39	.46	. 55	.63	.70	.77	.84	. 91
2		. 52	.61	.74	. 83	.93	1.03	1.13	1 23
$2\frac{1}{2}$			1.00	1.26	1.41	1.56	1.71	1.86	2 01
3			1.30	1.60	1.80	2.00	2.20	2.40	2 60
$3\frac{1}{2}$				2.10	2 35	2 60	2.85	3.15	3.40
4				2 30	2 60	2.90	3.20	3.50	3 80
41/2				3 30	3 65	4.05	4.45	4.85	5.25
5				3.75	4.20	4.60	5.00	5.40	5.85
6				4.50	5.00	5.55	6.05	6 60	7.15
7				5 65	6.35	7.05	7.75	8 45	9.20
8				6 65	7 50	8 35	9 25	10 10	10 05

Black Extra Heavy Wrought Nipples

Size			ght-Hand Nipples	PRICE, EA	CH, BLACK
In.	Close		ENGTH, INCHES	Close or	on, Dinen
		Short	Long—	Short	Long
1/8	$\frac{3}{7}$ 4	11/2	$\frac{2}{3}$, $\frac{21}{2}$, $\frac{3}{3}$, $\frac{31}{2}$	\$.08	\$.12
7/4	7/8	11/2	$2, 2\frac{1}{2}, 3, 3\frac{1}{2}$.08	.12
3/8	1	$1\frac{1}{2}$	$2, 2\frac{1}{2}, 3, 3\frac{1}{2}$.08	.12
1/2	$1\frac{1}{8}$	$1\frac{1}{2}$	$2, 2\frac{1}{2}, 3, 3\frac{1}{2}$.10	.14
3/4	13/8	2	21/2, 3 , 31/2, 4		
1	11%	2	21/2, 3 , 31/2, 4	.12	.18
11/4	$\frac{1}{15}\frac{2}{8}$.16	.26
	128	21/2	$3, 3\frac{1}{2}, 4, 4\frac{1}{2}$.22	.34
11/2	$1\frac{3}{4}$	21/2	3 , 3½, 4 , 4½	.26	.40
2	2	$2\frac{1}{2}$	3 , 31/2, 4 , 41/2	.36	.54
21/2	$2\frac{1}{2}$	3	31/2, 4 , 41/2, 5	.78	
3	25%	3	21/ 4 41/		1.18
31/2	23/		1 2 2 2 2	.96	1.44
4	274	4	$4\frac{1}{2}$, 5 , $5\frac{1}{2}$, 6	1.50	2.10
41/	2/8	4	$4\frac{1}{2}$, 5 , $5\frac{1}{2}$, 6	1.70	2.40
41/2	21/8	4	$4\frac{1}{2}$, 5 , $5\frac{1}{2}$, 6	2.50	3.40
5	3	41/2	5 , 51/2, 6 , 61/2	3.10	
6	$3\frac{1}{8}$	41/2	_ / _ / _ / _ / _		4.90
7	31/1	5	1 - 1 21 - 1 - 1 2	3.70	5.80
8	214		$5\frac{1}{2}$, 6	6.40	7.20
9	3/2	5	$5\frac{1}{2}$, 6	7.10	3.10
10	3 5/8	5 5		10.50	
12	41/8	5		13.50	4
	±/2	9	** ** ** ** ** ** ** ** * * * * * * * *	16.00	

Extra Long Right-Hand Nipples

e	4	5	0	-	- LENGTH	INCHES	-		
		and the second	6	7	8	9	10	11	12
1	\$.14	\$.16	\$.20	\$.24	\$.28	\$.30	\$.34	\$.36	\$.38
3	.14	.16	.20	.24	.28	.30	.34		.38
	.16	.20	.24	.28	.32	.36			
		.22	.26	.34	.36	.40			.52
		.30	.36	.46	.50	.56		.68	.72
		.40	.48	.58	.66	.72	.80		
	./.	.50	.58	.72	.80	.90		.88	.94
	1	.64	.76	1.00	1.08			1.08	1.1
			1.36	1.80		1.18	1.30	1.44	1.5
					1.94	2.12	2.34	2.52	2.70
			1.70	2.16	2.40	2.66	2.90	3.16	3.4
	• • •	• • •		2.60	2.90	3.20	3.50	3.80	4.10
	• • •	• • •		3.04	3.38	3.74	4.10	4.44	4.80
	• • •	• • •		4.50	5.00	5.50	5.90	6.34	6.80
	• • •			5.16	5.66	6.20	6.70	7.20	7.70
				6.10	6.70	7.40	8.00	8.60	9.30
				8.10	8.90	9.80	10.60	11.50	12.30
				9.10	10.10	11.00	12.00	13.00	14.00
					13.00	14.20	15.50	16.80	18.00
	• • •				16.50	17.80	19.40	20.80	22.30
	• • •				Vroug	21.60	23.50	25.40	27.30

Double list of extra heavy nipples.

Tank Nipples

Black



Size					PRIC	E, EACH				7 1
	01/		-		- ENGT	I NOT	12.2			
In.	$3^{1/2}$	4	5						, 11	12
1/2	\$.07		\$.10	\$.12	\$.14	\$.16	\$.18	\$.20	\$.22	\$.23
3/4		.09	.11	.13	.17	.18	.20	.22	.24	.26
1		.13	.15	.18	.23	.25	.28	.31	.34	.36
11/4		.17	.20	.24	.29	.33	.36	.40	.44	.47
11/2		.20	.25	.29	.36	.40	.45	.50	.54	.59
2			.32	.38	.50	.54	.59	.65	.72	.77
21/2			.59	.68	.90	.97	1.06	1.17	1.26	1 35
3				.85	1.08	1.20	1.33	1.45	1.58	1 70
$3\frac{1}{2}$					1.30	1.45	1.60	1.75	1.90	2.05
4				1	1.52	1.69	1.87	2.05	2 22	2 40
4 5 6						2.83	3.10	3.35	3 60	2 05
6						3.35	3.70	4.00	4.30	4.65

Byers Genuine Wrought Iron Nipples Regular or Standard Weight



Assorted close and short nipples will always be shipped unless otherwise specified.

Assorted right and left nipples will be furnished "Long" unless otherwise specified.

Nipples, 2½ and 3-inch, can be furnished with 11½ threads per inch, at special prices.

Black—Right Hand Threads

		Black-	-Righ	t Hand	Thread	ds	
Size		T.ex	матн, І	MOTTES		PRICE	EACH
In.	Close	Short	NGIH, I	Long		Close or Short	Long
1/4 3/8	7/8	11/2	2,	21/2, 3,	31/2		
3/8	1	11/2	2	011/ -	31/2	\$.04	\$.06
1/2	11/8	11/2	2,	01/0		.04	.06
1/2 3/4		2/2	2, 2, 2 ¹ / ₂		31/2	.05	.07
1 4	13/8 11/2	2 2	21/2	3, 31/2	, 4	.06	.09
11/4	15/	21/2	2/2	2, 3, 31/2	2, 4	.08	.13
11/4	13/	2/2	21/2 3, 3,	$3\frac{1}{2}$, 4,	41/2	.11	.17
11/2	134	21/2	3,	$3\frac{1}{2}$, 4,	41/2	.13	.20
21/2	194	21/2	3,	$3\frac{1}{2}$, 4,	41/2	.18	.27
21/2	21/2	3 3	31/2		, 5	.39	.59
3 1/2	21/2	3	31/2	, 4, 41/2	, 5	.48	.72
31/2	23/4	4	41/2	$5, 5, 5\frac{1}{2}$. 6	.75	1.05
4 ¹ / ₂ 5	2 ¹ / ₂ 2 ³ / ₄ 3 3 ¹ / ₄	4	41/2	$5, 5, 5\frac{1}{2}$. 6	.85	1.20
41/2	3	4	41/2	$5, 5 \frac{1}{2}$, 6	1.25	1.70
5	31/4	$4\frac{1}{2}$	5,	51/2, 6,	61/2	1.55	2.45
6	31/4	41/2	5.	$5\frac{1}{2}$, 6,	61/2	1.85	
6 7	$3\frac{1}{2}$	5	5, 6	-/2, 0,	0/2	3.20	2.90
8	31/2	5	6				3.60
9	4	5	8			3.55	4.05
10	4	5 5	8			5.25	6.50
12	4	5	8			6.75	8.25
	, 4	0	0			8.00	10.00
		2.00		PRICE, EACH			
Size	244	List, P.	T	EXTRA LONG	Two		-

					PRICE,	EACH-			
Size		Me to be	48.17	T	EXTRA	LONG— INCHES—			
In.	4	.5	6	7	8	9	10	11	12
1/4	\$.07	\$.08	\$.10	\$.12	\$.14	\$.15	\$.17		
3/8 1/2	.07	.08	.10	.12	.14				
1/2	.08	.10	.12	.14	.16				A STATE OF STREET
3/4		.11	.13	.17	.18				
1		.15	.18	.23	.25			.34	
11/4		.20	.24	.29	.33	.36	.40		
11/2		.25	.29	.36	.40	.45	.50		THE PERSON NAMED IN COLUMN
2		.32	.38	.50	.54	.59	.65		.59
21/2			.68	.90	.97	1.06	1.17		.77
3			.85	1.08	1.20	1.33	1.45	1.26	1.35
31/2				1.30	1.45	1.60		1.58	1.70
4				-	1.69	1.87	1.75	1.90	2.05
41/2				2.25			2.05	2.22	2.40
5				2.58		2.75	2.95	3.17	3.40
6				3.05		3.10	3.35	3.60	3.85
7				4.05		3.70	4.00	4.30	4.65
8						4.90	5.30	5.75	6.15
9	• • • •	• • •	• • •	4.55	5.05	5.50	6.00	6.50	7.00
10	• • • •					7.10	7.75	8.40	9.00
12					• • • •	8.90	9.70	10.40	11.15
						10.80	11.75	12.70	13 65

	BI	ack—F	Right	and L	eft Th	reads		
Size	Class prop 1		GTH, INC.				PRICE. F	CACH!
In.	Close	Short	GTH, INC	Lon	_	Clo	se or	100
1/4	7/8	11/2	0				hort	Long
1/4 3/8 1/2 3/4	1'8	1 1/2	2, 2,	$2\frac{1}{2}, 3$.05	\$.08
1/2	11/8	1 1/6	9	$2\frac{1}{2}, 3$ $2\frac{1}{2}, 3$	$\frac{3\frac{1}{2}}{3\frac{1}{2}}$.05	.08
3/4	1 3/8	2	21/	3 2,3	1/2, 4		.07	.10
1	1 1/2	2	21/	3 3	1/2, 4		.08	.12
11/4	$\frac{1}{1}\frac{5}{8}$ $\frac{1}{3}\frac{3}{4}$	21/2	3,	31/2, 4	41/2		.15	.18
11/2	1 3/4	21/2	3,	31/2, 4	41/2		.18	.23
21/	21/	21/2	2 1/2 2 1/2 3, 3, 3,	3 1/2, 4	4 1/2		24	.36
3 72	212	3	3 1/2	, 4, 4	1/2,5		.52	.79
1½ 2 2½ 3 3½	1 34 2 2 1/2 2 1/2 2 1/2 2 3/4 3	2 ½ 2 ½ 2 ½ 3 3 4	3 1/2		1/2, 5		. 65	.96
4	3	1	4 1/2	, 5, 5	12,6		.00	1.40
		-	4 /2	RICE, EAC	1/2, 6	1	15	1.60
100			- F	EXTRA LOI	H			-
Size	r		LE	NGTH, INC	HES	Yang Brit		-
In.	4 5	6	7	8	9	10	11	12
3/4	\$.09 \$.11	\$.13	\$.16	\$.18	\$.20	\$.23	\$.25	\$.27
1/4 3/8 1/2 3/4	.09 .11	.13	.16	.18	.20	.23	.25	.27
3/4	.11 .13	.16	.18	.21	.24	.27	.29	.31
1 4	20	.17	.23	.25	.27	.29	.32	35

111.	4	5	6	7	8	9	10	11	12
1/4	\$.09	\$.11	\$.13	\$.16	\$.18	* 00			
3/0	.09	.11	.13			\$.20	\$.23	\$.25	\$.27
1/	.11			.16	.18	.20	.23	.25	.27
72	.11	.13	.16	.18	.21	.24	.27		
3/8 1/2 3/4		.15	.17	.23	.25	.27		.29	.31
1		.20	.24	.31			.29	.32	.35
11/		.27			.33	.37	.41	.45	.48
11/2			.32	.39	.45	.50	.55	.60	.65
1/2		.34	.39	.48	.52	.60	.67		
2		.43	.51	. 67	.72			.72	.80
21/2			.91			.80	.87	.96	1.03
3 "	STATE OF	1111		1.20	1.30	1.40	1.55	1.68	1.80
21/			1.13	1.44	1.60	1.77	1.93	2.10	
11/4 11/2 2 21/2 3 31/2				1.75	1.95	2.15			2.27
4				2.00			2.35	2.55	2.75
				2.00	2.25	2.50	2.75	3.00	3.25

Cast Iron Water Pipe

Bell and Spigot and Turned and Bored



Standard Thickness and Weights of Cast Iron Pipe

		ass A Gas		lass B		ass C m Heavy	Cla	ass D a Heavy
Nor	43 L	FT. HEAD BS. PRESS. k- Wt.	200-	FT. HEAD BS. PRESS.	300-I	T. HEAD BS. PRESS	400-I 173 I	T. HEAD LBS. PRESS.
I. I In.	o. ness		ness In.		ness	Lbs. per Ft.	Thick ness In.	
3 4	.38	$\frac{13.9}{20}$.42	$15.4 \\ 21.7$		23.3		25
6 8	.44	30.8 42.9	.48	33.3 47.5	. 51	35.8	. 55	38.3
10	. 50	57.1	. 57	63.8	. 56	52.1 70.8	.60	55.8 76.7
12 14	.54	72.5	. 62	82.1	. 68	91.7	. 75	100
16	. 57	89.6 108.3	.66	$102.5 \\ 125$.74	$116.7 \\ 143.8$.82	$129.2 \\ 158.3$
18 20	. 64	$\frac{129.2}{150}$.75 .80	150 175	.87 .92	175 208.3	.96 1.03	191.7 229.2
24 30	.76	$204.2 \\ 291.7$. 89 1. 03	233.3 333.3	$\frac{1.04}{1.20}$	279.2 400	1.16 1.37	306.7 450
36 42	.99	391.7	$\frac{1.15}{1.28}$	454.2 591.7	1.36 1.54	545.8 716.7	1.58 1.78	625 825
48 54	1.26 1.35	666.7	1.42 1.55	750	1.71	908.3	1.96	1050
60	1.39		1.67	933.3 1104.2	1.90	1141.7 1341.7	2.23 2.38	1341.7 1583.3
72	1.62		1.95	1545.8		1904.2		
		633.4 2						

All lengths to lay 12 feet. All weights are approximate; those per foot include allowance for bell. All pipe is tested by water pressure. Turned and bored pipe made to order only.

Inquiries and orders should clearly indicate the approximate number of lengths or feet of pipe of each size and class required. Give the desired delivery point and time of shipment, with any particulars as to sizes required first, the service intended, etc. This will facilitate prompt attention and avoid delays.

Two-inch pipe and fittings also furnished.

Approximate Weights of Lead and Hemp Required for Joints

Pipe In.	WT.,	LBS. Hemp	Pipe In.	Wт., I Lead	Bs. Hemp	Pipe In.	WT.,	LBS. Hemp
3 4	6. 7.5	$.18 \\ .21$	16 18	30 33.8	1.94	48 54	85.5 97.6	4.37 6.25
6 8	$10.25 \\ 13.25$.31	20 24	37 44	$\frac{1.25}{1.50}$	60 72	$\frac{108.3}{128}$	$8.25 \\ 12.50$
10 12	16 19	. 53 . 61	30 36	54.25 64.75	2.06	84	147	15.00
14	22	.81	42	75.25	3.62			

Flanged



Flanged cast iron pipe, sizes 3 to 48 inches, same thickness as standard pipe. Thickness of flange equals approximately $1\frac{1}{2}$ times thickness of pipe, plus $\frac{1}{8}$ inch. Pipe made in 12-foot lengths and faced $\frac{1}{16}$ inch short for gaskets.

Specials for Cast Iron Pipe Class D

90° Quarter Bends Wt. Lbs. Size In. Wt. Lbs. 82 16 750 6 130 18 888 8 200 20 1070 10 12 278 24 1656 366 30 2836 504 4820

	45° Eig	hth	Bends
ze	Wt.	Size	Wt.
)	T.he	In	T be

			1100		21001			
4	66	12	265	20	964			
6	105	14	442	24	1515			
8	150	16	558	30	2291			
10	202	18	663	36	4012			
		221/2°	Six	teenth	Bends			
4	66	10	202	16	484	24	1372	
6	105	12	265	18	574	30	2080	
8	150	14	382	20	858	36	4012	

Tees



Size, In.	Wt., Lbs.	Size, In.	Wt., Lbs.	Size, In.	Wt., Lbs.
4x 4x 4	128	10x10x 6	352	16x16x16	969
6x 6x 6	200	10x10x 4	338	16x16x12	861
6x 6x 4	183	12x12x12	512	20x20x20	1438
8x 8x 8	294	12x12x10	491	24x24x24	2113
8x 8x 6	270	12x12x 8	474	30x30x30	3660
8x 8x 4	255	12x12x 6	458	36x36x36	5567
10x10x10	395	12x12x 4	445	48x48x48	
10x10x 8	371	14v14v14	794		

Crosses



	range and the same				
Size, In.	Wt., Lbs.	Size, In.	Wt., Lbs.	Size, In.	Wt., Lbs.
4x 4x 4x 4	166 10	x10x 6x 6	6 406	16x16x16x16	1259
6x 6x 6x 6	257 10	x10x 4x 4	1 377	18x18x18x18	1454
6x 6x 4x 4	221 12:	x12x12x12	623	20x20x20x20	1828
8x 8x 8x 8	372 12	x12x10x10	577	24x24x24x24	2694
8x 8x 6x 6		x12x 8x 8		30x30x30x30	4609
8x 8x 4x 4	294 12	x12x 6x 6	5 512	36x36x36x36	6857
10x10x10x10	493 12	x12x 4x 4	486	48x48x48x48	
10x10x 8x 8	443 14	x14x14x14	963		

	ug	

Plugs and Caps



Size		LBS.	Size	WT.,	LBS.	Size	Wr.,	LBS.
In.	Plug	Cap	In.	Plug	Cap	In.	Plug	Cap
4	8	26	14	65	149	30	723	704
6	14	40	.16	96	198	36	1050	1084
8	24	59	18	121	242	48	2047	2341
10	38	81	20	156	308	54	2733	3009
12	50	104	24	472	442	60	3397	3687
				Slee	ves			

	No.	SCHOOL SECTION	-
10.0	•		
200	80.		

200	100		

	Lgth.		Size	Lgth.	Wt.	Size	Lgth.	Wt.	
In.	In.	Lbs.	In.	In.	Lbs.	In.	In.	Lbs.	
4	15	61	14	18	280	30	24	1262	
6	15	87	16	24	443	36	24	1772	
8	15	119	18	24	518	48	24	2879	
10	18	176	20	24	625	54	24	3571	
12	18	223	24	24	821	60	24	4231	

Siz 346

Special for Cast Iron Pipe Class D



0.00	3 2
Y Bra	nches
Size	Wt.
In.	Lbs.
4x 4	103
6x 6	181
8x 8	291
10x10	434
12x12	632
14x14	985
16x16	1413
18x18	1737
20x20	2199



Reducer	Increaser

Reducers

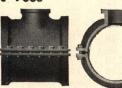
3599

24x24

Size In.	Wt. Lbs.	Size In.	Wt. Lbs.	Size In.	Wt.	Size In.	Wt. Lbs.
6x 4	97	12x 6	202	16x10	364	20x12	576
8x 6	143	12x 4	179	18x16	569	24×20	987
8x 4	119	14x12	360	18x14	502	24x18	901
10x 8	198	14x10	320	18x12	446	24x16	838
10x 6	169	14x 8	288	18x10	405	24x14	764
10x 4	146	14x 6	256	20x18	776	30x24	1398
12x10	261	16x14	461	20x16	711	36x30	2264
12x 8	231	16x12	405	20x14	638		
			Incre	easers			
4x 6	104	6x 8	150	8x10	201	12x14	378
4x 8	132	6x10	180	8x12	240		
4x10	162	6x12	218	10x12	267		
			Culia	T			

Split Tees

Wi	ith any s	size out	let.
Size In.	Wt. Lbs.	Size In.	Wt. Lbs.
3	60	14	293
4	103	16	355
6	115	18	400
8	165	20	460
10	245	24	563
12	275		



Split Sleeves



Size	Wt.	Size	Wt.
In.	Lbs.	In.	Lbs.
3	50	14	268
4	91	16	323
6	101	18	368
8	151	20	423
10	225	24	513
12	250		010

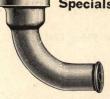
Flanges and Spigots



Size In.	Lgth. In.	Wt. Lbs.	Size In.	Lgth.	Wt. Lbs.	Size In.	Lgth. In.	Wt.
3	16	24	10	18	140	18	20	340
4	16	38	12	18	173	20	20	425
6	16	60	14	18	220	24	24	635
8	16	90	16	20	255			
	FI	anges	and	Bells				
Size In.	Lgth. In.	Wt. Lbs.	Siz In	e Lgth.	Wt.			
3	4	24	14	6	220	44		
4	4	38	16		275	171		
6	4	60	18		325			
8	4	90	20	6	395			1
10	6	140	24	6	520			
12	6	173		MAIN.	44			

10	U	140	44	0	020		
12	6	173					
				Fla	inges		
1		Size In.	Wt. Lbs.	Size In.	Wt. Lbs.	Size In.	Wt.
		3	10	10	45	18	117
(4)		4	15	12	59	20	153
		6	20	14	80	24	210
		8	32	16	105		

Specials for Cast Iron Pipe



ze	Price	Size	Price
ches	Each	Inches	Each
	\$9.75	8	\$29.50
	17.25	10	36.00
	20.00		The LY and Control

Tapped Elbows

	Tapp	ed Tee	S		
ize	Price Each	Size Inches	Price Each		
	\$13.75	8	\$34.25		極速
	19.50	10	45.50		
	28.25				

Tapped tees are made 12-inch laying length, unless otherwise ordered.

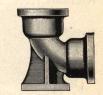
Tapped Reducers

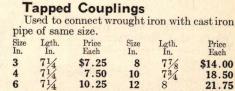


Fittings 6-inch and smaller tapped any size from 34 to 2-inch; 8-inch and larger tapped any size from 34 to 3-inch. In ordering, state size of tapping desired.

Base Elbows with Bell Ends

					-1100
Size	Wt.	Size	Wt.	Size	Wt.
In.	Lbs.	In.	Lbs.	In.	Lbs.
3	93	12	572	24	2375
4	125	14	742	30	4067
6	191	16	1062	36	6679
8	300	18	1266		
10	413	20	1550		01.00
Pr	ices up	on app	lication	William To	





Tapped Plugs

For connecting wrought iron pipe to larger

cast	mon bibe				
Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each
3	\$5.50	8	\$10.25	14	\$24.00
4	6.00	10	12.00	16	30.25
6	7.25	12	13.50		

Tapped 2 inches and smaller. Plugs tapped larger than 2 inches, extra net as follows: $2\frac{1}{2}$ -inch, \$2.00; 3-inch, \$3.00; 4-inch, \$4.00; 5-inch, \$5.00; 6-inch, \$6.00.

Tapped Caps

For connecting wrought iron pipe to larger

cast	iron pip	e.			
Size In.	Price Each	Size In,	Price Each	Size In.	Price Each
3	\$7.50	8	\$15.00	14	\$27.00
4	10.50	10	18.75	16	38.50
6	13.75	12	24.75		

Tapped 2 inches and smaller. Plugs tapped larger than 2 inches, extra net as follows: 2½-inch, \$2.00; 3-inch, \$3.00; 4-inch, \$4.00; 5-inch, \$5.00; 6-inch, \$6.00.

Saddles

		addies
For C. I. Pipe, In.	Tapped for Pipe, In.	Price Each
3	3/4 to 2	\$6.75
4	34 " 2 34 " 2	9.40
6	3/4 " 2	10.00
6	3	12.20
8	3/4 to 2	15.20
8		15.20
10	3/4 to 2	15.50
10		15.50
12	4 or less	18.20
14	4 " "	21.50



C \$.21

\$.30

Malleable Iron Fittings

Revised Classification and Price List

Effective July 5, 1927

B	a	n	d	e	d

Price, Black.....per lb. \$.65

" Galv "	.75	.36	.26
Caps	$\frac{1}{8}$	$\frac{1}{4}$ to $\frac{3}{4}$	$ \begin{array}{c} 1_{\frac{1}{4}} \text{ to } 6 \\ 1 \\ 1_{\frac{1}{4}} \text{ to } 4 \\ 1 & 2 \end{array} $
Crosses, Straight		$\begin{cases} \frac{1}{4} & 1\\ \frac{1}{2}, \frac{3}{4} \text{ and}\\ 1, 1\frac{1}{4}x\frac{1}{2} \end{cases}$	$1\frac{1}{4}$ " 6 $1\frac{1}{4}$ " 4
Elbows, Straight	1/8 	$\begin{cases} \frac{1}{4}, \frac{3}{8}, \frac{1}{2} \\ \frac{3}{8}x_{4}^{1} \text{ to} \\ 1x_{2}^{1}, 1_{4}^{1}x_{2}^{1} \end{cases}$	$1x^{\frac{3}{4}}_{\frac{3}{4}}$ " 6 $4x^{\frac{3}{4}}$
" R. & L " 45° " Street, 90° " 45°	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	34 to 2 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Locknuts, Hexagon	8 1 8	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 1\frac{1}{2} \text{ to } 4 \\ 1\frac{1}{4}x\frac{3}{4} \text{ to } \\ 4x3\frac{1}{2} \end{array}$
Return Bends, C. P	$\frac{3}{8}$ \dots $\frac{1}{8}$	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{1}$ $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{1}$ $\frac{3}{8}$ to $\frac{1}{4}$	$1\frac{1}{4}, 1\frac{1}{2}, 2$ $1\frac{1}{4}, 1\frac{1}{2}, 2$ $1\frac{1}{4} \text{ to } 3$ $\frac{3}{4} \text{ 6}$
" Reducing	••••{	$ \begin{array}{c c} \frac{1}{4} & \text{to } \frac{3}{4} & 1 \\ 1 & 2 & \frac{3}{4} \\ \text{Outlet } \frac{1}{2}\text{-in.} \\ \text{and Smaller} \end{array} $	to 2 Outlets in. and Larger 2½ to 6
" Service, Straight " Reducing Y's		$ \begin{cases} \frac{3}{8}, \\ \frac{1}{2}, \frac{3}{4} \\ 1x_{4}^{3} \\ \frac{1}{2} \text{ to } 4 \end{cases} $	All Sizes $1, 1\frac{1}{4}, 1\frac{1}{2}, 2$ $1\frac{1}{4}, 1\frac{1}{2}, 2$
P	lain		
Class	A \$.65 .75	B \$.34 .41	C \$.24 .30
Chandelian Heaks Mala			
Chandelier Hooks, Male "Female Loops, Male "Female	18 	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1½ to 2
" Loops, Male	$\begin{cases} \frac{1}{4}X\frac{1}{8} \\ \frac{3}{8}X\frac{1}{8} \end{cases}$	38 and 12 38 " 12 38 " 12 38 " 12	1½ to 2
" Loops, Male " Female " Female Elbows, Reducing " 60° " Side Outlet " Drop, Female " Male and Female	$\int \frac{1}{4} X \frac{1}{8}$	3 and 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	1¼ to 2
" Loops, Male	$\begin{cases} \frac{1}{4}X\frac{1}{8}\\ \frac{3}{8}X\frac{1}{8} \end{cases}$	$\frac{3}{8}$ and $\frac{1}{2}$ $\frac{3}{8}$ " $\frac{1}{2}$ $\frac{3}{8}$ " $\frac{1}{2}$ $\frac{3}{8}$	1½ to 2

All fittings other than Standard take 25 per cent advance. Such fittings in Class C as have one or more openings smaller than 34-inch to be Class B.

.

All Sizes

 $\frac{3}{8} \text{ to } 2$ $\frac{3}{8} \text{ and } \frac{1}{2}$ $\frac{1}{4} \text{ to } 2$

 $\begin{array}{c} 2x1\frac{1}{2}x1\frac{1}{2} \\ 2x1\frac{1}{2}x2 \\ 2x1\frac{1}{2} \end{array}$

Tees, Reducing.....

"Drop, Female.....

Wall Plates..... Waste Nuts.....

Y's.....

" Male and Female.
Four-way.....

For reducing malleable fittings, the smallest opening determines the classification.

The run of tees gives the sizes for the purpose of classification; the outlet being larger does not change it.

Right and left fittings not classified take one class higher than right hand.

Malleable Iron Fittings

Approximate Weight of Black Malleable Iron Fittings Weight in Pounds per 100 Pieces

Size Plain Beaded Street 45° Outlet Stebows Fem. M. and F.									
1/4		-					Side	EII	rop
3/8 14 16 15 17 19 18 23 3/4 37 41 37 35 48 51 11/4 51 57 60 53 72 11/4 90 102 92 87 120 11/2 120 128 128 112 164 11/2 120 128 128 112 164 11/2 120 128 128 112 164 21/2 335 342 305 342 305 4 912 995 800 4/2 1360 1340 1340 1/2 1360 522 36 35 23 2			Beaded			45°	Outlet	Fem.	M. and F.
3/4	1/4	9			10				
3/4	1/2	The second second							
1									00
11½ 120 128 128 112 164 2 192 220 230 342 305 3	1	51	57	(30	53	72		
2	11/4	100						••	•••
21/2	2								
31/2					TO STORY OF THE PARTY OF THE PA	305			
4 912 995 800		:::							
Size Plain Beaded Service 4-way Fem. M. and F. Plain Beaded Service 4-way Service 4-way Fem. M. and F. Plain Beaded 42 34 32 32 32 32 32 32	4		912			800			
Size Plain Beaded Service 4-way Prop Tees Crosses In. Plain Beaded Service 4-way Fem. M. and F. Plain Beaded 1/4 12 15 16 16 17 16 17 16 17 16 17 16 17 18 17 18 17 18 17 18 17 18 17 18 17 18 18 18 18 18 18 .	41/2								
In. Plain Beaded Service 4-way Fem. M. and F. Plain Beaded 1/4 12 15	6								
In. Plain Beaded Service 4-way Fem. M. and F. Plain Beaded 1/4 12 15	Cina		-				1		
3/8 20 23 23 23 20 18 23 28 1/2 30 35 32 36 35 22 36 42 3/4 48 55 53 55 52 33 56 69 1 /4 116 152 134 142 142 160 1 /2 158 183 168 182 179 203 2 265 300 300 305 307 345 2 1/2 463 494 <	In.				4-way	Fem.	M. and F.		
3/8 20 23 23 23 20 18 23 28 1/2 30 35 32 36 35 22 36 42 3/4 48 55 53 55 52 33 56 69 1 /4 116 152 134 142 142 160 1 /2 158 183 168 182 179 203 2 265 300 300 305 307 345 2 1/2 463 494 <	1/8			•••				16	
3/4	3/8	20	23	23				23	
1							TO SECOND		
11/4	1						Later Associated		
2 265 300 300 305 . 307 345 21/2 . 463 494	11/4		152	134	142			142	160
21/2							••		
31/2	21/2	269			305	::		307	
4 1210 1340 4½ 1730 5 2090 2360 6 3260 Size Plain Beaded Plain Beaded Cross-Tray overs Tees 1/4 5 6 3/8 7 9 1/2 45 12 16 48 52 3/4 64 20 20 27 84 75 1 108 32 33 41 115 1/4 170 188 54 60 60 1½ 240 257 78 77 87 2½ 458 650 196 260 </th <th>3</th> <th></th> <th></th> <th>700</th> <th></th> <th></th> <th></th> <th></th> <th>730</th>	3			700					730
4½ 1730 .		10.00		• • • • •	1	••	••		
Size In. Plain Beaded Plain Beaded Caps Plain Beaded Plain Beaded Reducers Plain Beaded overs Tray overs Trees 1/4 5 6 3/8 7 9 1/2 45 12 16 48 52 3/4 64 20 20 27 84 75 1 108 32 33 41 115 1/4 170 188 54 60 60 1/2 240 257 78 77 87 2 392 395 122 146	41/2				:::				1340
Size Plain Beaded Plain Plain					,			•••	
Size Plain Beaded Plain Beaded Beaded Beaded Plain Beaded Reducers Reducers Reversible Reversibl	U		5200		1	Head		1	
1/4 5 6 </th <th></th> <th>Plain</th> <th>"s——</th> <th>Ca</th> <th>ps Dealed</th> <th></th> <th></th> <th></th> <th>Tray</th>		Plain	"s——	Ca	ps Dealed				Tray
3/8 7 9 48 52 3/4 64 20 20 27 84 75 1 108 32 33 41 115 11/2 108 32 33 41 115 11/2 11/2 <td< th=""><th></th><th>Plain</th><th>Beaded</th><th></th><th>Beaded</th><th></th><th>Beaded</th><th></th><th>lees</th></td<>		Plain	Beaded		Beaded		Beaded		lees
3¼ 64 20 20 27 84 75 1 108 32 33 41 115 1½ 240 257 78 77 87 2 392 395 122 146 2½ 458 650 196 260 3 1040 285 400 3½ 390 4 1750 4 1750 5 6	3/8					9		/	::
1 108 32 33 41 115 1½ 240 257 78 77 87 2 392 395 122 146 2½ 458 650 196 260 3½ 390 555 4 1750 445 5 6 In. C.P. Med. O.P. R. and L. R. H. R. H. Nuts sets	3/4						27		
1½ 240 257 78 77 87 2 392 395 122 146 2½ 458 650 196 260 3½ 390 555 4 1750 445 711 4½ 5	1		108	32		33	41	115	
2 392 395 . 122 . 146	11/4								
31/2	2 2			::					::
3½ 390 555	21/2	458			196		260		
4 1750 445 711	31/2		1040	(**					
Size Return Bends Couplings In. C. P. Med. O. P. Beaded Plain Beaded R. H. R. H. Lock Nuts Off-sets 1/4 9 7 8 3½ 3/8 14 11 13 4¾ 1/2 38 40 42 18 15 17 7 3/4 60 61 80 29 24 29 11 71 1 90 95 115 45 36 43 16 128 11/4 142 155 192 77 63 72 24 195 11/2 184 212 300 98 85 96 34 2 300 366 456 168 143 164 50 21/2 700 250 242			1750						.:
Size Return Bends In. C. P. Med. O. P. Beaded Plain Beaded Plain Beaded R. and L. R. H. R. H. Nuts sets 1/4 9 7 8 3/2 3/8 11 13 43/4 1/2 38 40 42 18 15 17 7 3/4 60 61 80 29 24 29 11 71 1 90 95 115 45 36 43 16 128 11/4 142 155 192 77 63 72 24 195 11/2 184 212 300 98 85 96 34 2 300 366 456 168 143 164 50 21/2 700 250 242	41/2								
Size Return Bends Beaded Rand L R. H. Plain R. H. Beaded R. H. Lock Nuts Off-sets 1/4 9 7 8 3½ 3/8 .14 11 13 4¾ 1/2 38 40 42 18 15 17 7 3/4 60 61 80 29 24 29 11 71 1 90 95 115 45 36 43 16 128 11/4 142 155 192 77 63 72 24 195 11/2 184 212 300 98 85 96 34 2 300 366 456 168 143 164 50 21/2 700 250 242							74		
Size Return Bends Beaded In. C. P. Med. O. P. R. and L. R. H. R. H. Nuts Sets 1/4 9 7 8 3½ 3/8 14 11 13 4¾ 1/2 38 40 42 18 15 17 7 3/4 60 61 80 29 24 29 11 71 1 90 95 115 45 36 43 16 128 1/4 142 155 192 77 63 72 24 195 1/2 184 212 300 98 85 96 34 2 300 366 456 168 143 164 50 21/2 700 250 242						4 7			•
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					Beaded	Plain	Beaded		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		C. F.	Med.					31/2	sets
$3\sqrt[4]{4}$ 60 61 80 29 24 29 11 71 1 90 95 115 45 36 43 16 128 11/4 142 155 192 77 63 72 24 195 11/2 184 212 300 98 85 96 34 2 300 366 456 168 143 164 50 21/2 700 250 242	3/8	90			14	11	13	43/4	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3/4	60							71
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		90	95	115	45				
2 300 366 456 168 143 164 50 2½ 700 250 242	11/4								195
2½ 700 250 242	2 2								
	21/2								

1020

335

333

Malleable Iron Screwed Fittings Straight and Reducing Elbows Plain and Banded





Plain

n Ba

Size	RIGHT	HAND Galv.	R. AN Black	Galv.	Size	RIGHT	HAND		ND L.
			Plack	Gaiv.	In.	Black	Galv.	Black	Galv.
1/8	\$ 06	\$.08			2	\$.50	\$.90	\$.65	\$1.00
1/4	. 97	.09	\$.09	\$.12	21/2	.90	1.50	7.00	7
3/8	08	.11	.11	.16	3	1.50	2.60		
	(.10		.13	.17	31/2				
3/4	- The state of the					2.25	3.75		
- 74	.15	.20	.17	.23	4	3.00	5.00		
1	.22	32	.25	.35	41/2	3.50	5.75		
11/4	.25	.40	.30	.45	5	4.00	6.50		
11/2	.35	.60	.40	.65	6	The state of the s			
- 1/2	.00	.00	.40	.05	0	6.50	10.00		
-			1				-		

45° Elbows-Plain and Banded

Size In.	PRICE, Black	EACH Galv.	Size In.	PRICE, Black	EACH Galv.
1/4 3/9	\$.08	\$.12 .15	21/2	\$1.25 2.50	\$1.90 3.75
3/8 1/2 3/4	.12	.20	31/2	3.25	4.75
1	.26	.40	41/2	4.50 5.25	6.75 7.75
11/2	.36	.50	5	6.00 7.50	9.00
2	.82	135			

60° Elbows-Plain and Banded

Size		Елсн	Size	PRICE,	Елсн
ln.	Black	Galv.	In.	Black	Galv.
11/4	\$.30	\$.45	2	\$.65	\$1.05
11/2	.45	.70		39129	42.00

Street Elbows-Banded

		Sti	eet i	LIDOM	S-B
Size In.	PRICE, Black	EACH Galv.	Size In.	PRICE, Black	EACH Galv.
1/8	\$.08	\$.10	2	\$.90 \$	\$1.30
1/4 3/8	.10	.12	21/2		2.25
3/8	.10	.12	3	Comment of the last of the las	3.50
1/2	.12	.15	31/2	2.85	4.65
3/4	.20	.28	4		5.75
1	.25	.35	5	4.75	7.50
11/4	.40	.55	6	7.75 1	1.50
11/2	.55	.80			



45° Street Elbows-Banded

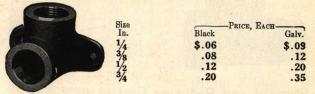
	Size In.	PRICE, Black	EACH Galv.	Size	PRICE	, Елен
	1/4	\$.12	\$.15	In. 11/4	Black \$.40	Galv. \$.55
	1/2	.12	.15	11/2	.55	1.30
William .	1 3/4	.20	.28	3 4	2.25 3.50	3.50 5.75

Side Outlet Elbows-Plain

			/_	
Size	PRICE	EACH		
In.	Black	Galv.		
3/8 1/2 3/4	\$.08	\$.10		
1/2	.10	.15		
3/4	.18	.25	A CHARLES	
1	.30	.45		
1½ 1½ 2	.45	.65		
11/2	.60	.90		
2	1.00	1.50		

In ordering, state whether black or galvanized fittings are wanted.

Malleable Iron Screwed Fittings Female Drop Elbows—Plain



Male and Female Drop Elbows-Plain

Size In.	Black PRICE,	EACH		
In.	Black	Galv.		
3/8	\$.08	\$.12		Mary 1
1/2	.12	\$.12 .20		
			100	

Straight and Reducing Tees Plain and Banded





Plain, Straight

Banded, Straight

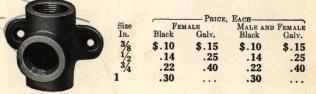


Right and left tees furnished to order. State which hole is to be tapped left hand.

Four-way Tees-Plain

Cina	D	T.	
Size In. 3/8 1/2 3/4	Black PRICE,	Galv.	
3/8	\$.12		
1/2	.14	\$.17 .20	/ARA
3/4	.20 .35	.28	
11%	.35	.50	THE PARTY NAMED IN
1/4	.50	.70	
2 2	.80	1.10	
	1.25	1.75	

Drop Tees-Plain



Long Drop Tees-Plain

	Drop Lgth	. Black	Galv.		Drop Lgth.	Black
Size	Over All	Price	Price	Size	Over All	Price
Inches	Inches	Each	Each	Inches	Inches	Each
3/8 3/4×3/4×1/2		\$.12	\$.17	1x1x1/2	33/8	\$.40
$\frac{3}{4}$ $\frac{3}{4}$ $\frac{1}{2}$	31/8	.30		11/4x11/4x1/2	33/4	.60

In ordering, state whether black or galvanized fittings are wanted.

Malleable Iron Screwed Fittings



S	ervice T	ees-	Banded	
Size	PRICE, EACH Black Galv	Size	PRICE, EAC	E

	I mice,		DIZE	LRICE	, EACH
In.	Black	Galv.	In.	Black	Galv.
1/4	\$.12	\$.15	11/2	\$.75	\$1.00
3/8	.12	.15	2	1.15	1.65
1/2	.15	.20	2½ 3	2.00	
3/4	.25	.35	3		
2	.35	.50	3x21/2x3	2.50	
1/4	.50	.70	3x3 x4	4.00	

Straight and Reducing Crosses Plain and Banded

Size	PRICE,	EACH	Size	PRICE	, Еасн	
In.	Black	Galv.	In.	Black	Galv.	
1/8	\$.08	\$.11	2	\$1.00	\$1.50	A COLUMN TWO IS NOT THE OWNER.
1/4	.09	.12	21/2	1.75	2.75	
3/8	.10	.14	3	3.00	4.50	
1/2	.16	.25	31/2	3.25	5.25	
3/4	.20	.29	4	5.25	8.00	
1	.30	.45	5	7.50	11.00	
11/4	.40	.60	6	13.00	19.00	
11/2	.60	.90				
	CL.		4			



Straight and Reducing Y Branches

| Plain and Banded | Size | PRICE, EACH | In. | Black | Galv. | In. | Black | 3% | \$.35 | \$.50 | 1½ | \$1.00

Size.	PRICE,		Size		EACH	
In.	Black	Galv.	In.	Black	Galv.	
3/8	\$.35	\$.50	11/2	\$1.00	\$1.50	
1/2 3/4	.40	.60	2	1.70	2.50	
3/4	.50	.75	21/2	2.00	3.00	
1	.60	.90	3	4.00	6.00	
11/4	.80	1.25	4	5.50	8.25	

Right and Left-hand Couplings Ribbed

Size- In.	PRICE, Black	EACH Galv.	Size In.	PRICE, Black	EACH Galv.
1/4	\$.04	\$.06	11/4	\$.25	\$.35
3/8	.06	.09	11/2	.36	.55
1/2	.08	.10	2	.52	.75
3/4	.12	.17	21/2	.70	1.05
1	.16	.25	3	1.00	1.50
D		l 1	C		DI-:



Right-hand Couplings—Plain and Banded

Size In.	PRICE, Black	Each Galv.	Size In.	PRICE, Black	Each Galv.	Size In.	PRICE Black	Galv.
1/4	\$.03	\$.05	1 11/4	\$.14	\$.23	2½ 3	\$.60 .90	\$.95
1/4 3/8 1/2 3/4	.07	.10	11/2	.25	.40	31/2	1.25	1.40
3/4	.10	.17	2	.35	.55	4	1.75	2.75

Reducing Couplings—Plain and Banded

	Size	PRICE,		Size	PRICE,	EACH
	In.	Black	Galv.	In.	Black	Galv.
1000	1/4	\$.05	\$.08	11/2	\$.28	\$.45
	3/8	.06	.10	2	.45	.75
	1/2	.07	.10	21/2	.70	1.05
A PARTY OF THE PAR	3/4	.10	.15	3	1.00	1.65
	1	.16	.25	31/2	1.50	2.40
	11/4	.20	.35	4	1.85	3.05

Caps—Plain and Banded

Size In.	PRICE,	EACH Galv.	Size In.	PRICE, Black	Each Galv.	
1/8	\$.03	\$.04	2	\$.32	\$.52	
1/4	.03	.04	21/2	.45	.76	A
3/8	.04	.05	3	.85	1.30	M
1/2 .	.05	.08	31/2	1.00	1.60	
3/4	.08	.12	4	1.20	2.00	1
11/4	.12	.17	5	2.50	3.50	V
11/2	.24	.24	6	3.50	5.00	



Waste Nuts

	Size In.	PRICE, Black	EACH Galv.	Size In.	PRICE, Black	
	1/4	\$.04	\$.08	1	\$.10	\$.20
A CONTRACTOR OF THE PARTY OF TH	3/8	.05	.10	11/4	.15	.30
	1/2	.06	.12	11/2	.25	.50
	3/4	.08	.16			

In ordering state whether black or galvanized fittings are wanted.

Malleable Iron Screwed Fittings Shoulder Bushings



Size Inches	PRICE, Black	EACH Galv.	Size Inches	PRICE, Black	EACH Galv.
1/4	\$.04	\$.08	11/4	\$.07	\$.14
1/4 3/8 1/2 3/4	.04	.08	11/2	.09	.18
1/2	.04	.08	2	.14	.28
3/4	.05	.19	21/2	.21	.42
1	.06	.12			

Faced Bushings

Size Inches	PRICE, Black	Each Galv.	Size Inches	PRICE, Black	EACH Galv.	
3/8	\$.08	\$.12	31/2	\$1.20	\$1.80	
1/2 3/4	.09	.14	4	1.50	2.25	
3/4	.11	.17	41/2	2.10	3.15	
1	.13	.20	5	2.60	3.90	
11/4	.17	.25	6	3.75	5.60	
11/2	.22	.33	7	8.00		
2	.32	.48	8	9.00	13.15	
$2\frac{1}{2}$.48	.72	10	14.00	1	
3	.70	1.05	12	20.00		



Locknuts



Size		, EACH	Size	PRICE,	EACH
Inches	Black	Galv.	Inches	Black	Galv.
1/8	\$.02		1	\$.07	\$.10
1/4	.02	\$.03	11/4	.09	.14
3/8	.03	.04	11/2	.11	.20
1/2	.04	.05	2	.18	.39
3/4	.05	.07			

Extension Pieces

∡e	PRICE,	EACH—
Tches	Black	Galv.
3/8	\$.06	\$.09
	.09	.13
3/4	.12	.18
	.15	.23
11/4	.25	.38
11/2	.30	.45
2	.50	.75
	STORES - A SAME	



Hexagon Nipples



Regularly furnished right and lefthand. Right-hand at special prices.

Cross Overs—Banded

Size	Black	Елен——
Inches	Black	Galv.
1/2	\$.20	\$.25
3/4	.30	.40
1	.45	.60



Cross Over Tees—Banded



Offsets-Banded

Size Inches	Offset Inches	Length Inches	Price Each
3/4	1½	31/4	\$.25
1	11/2	4	.40
11/4	2	53/8	.75



In ordering, state whether black or galvanized fittings are wanted.

Malleable Iron Screwed Fittings Close Pattern Return Bends



Will not make up parallel coils, as distance, center to center, of two adjacent bends is greater than center to center distances between openings of a single bend.

				PRICE, EACH		
Size	Center to Center		r Hand	Ri	GHT LEFT	Left Hand
Inches	Inches	Black	Galv.	Black	Galv.	Black
1/2	1	\$.18	\$.25	\$.23	\$.35	\$.23
3/4	11/4	.25	.35	.30	.40	.30
1	11/2	.35	. 55	.45	.65	.45
11/4	$1\frac{3}{4}$. 50	.75	.60	.85	.60
11/2	23/16	.75	1.15	.90	1.30	.90
2	$2\frac{5}{8}$	1.00	1.65	1.25	1.90	1.25

Medium Pattern Return Bends



				-PRICE, EACH		
Size	Center to Center		T HAND		GHT LEFT	Left Hand
Inches	Inches	Black	Galv.	Black	Galv.	Black
1/2 3/4	11/4	\$.18	\$.25	\$.23		\$.23
3/4	11/2	.25	.35	.30	\$.40	.30
1	$1\frac{7}{8}$.35	. 55	.45	.65	.45
11/4	$2\frac{1}{4}$. 50	.75	.60	1000	.60
11/2	$2\frac{1}{2}$.75	1.15	.90		.90
2	3	1.00	1.65	1.25		1.25

Open Pattern Return Bends



			Name of the last	-PRICE, EACH		C AND IN
Size	Center to Center		r Hand	Ric	GHT LEFT	Left Hand
Inches	Inches	Black	Galv.	Black	Galv.	Black
1/2 3/4	11/2	\$.20	\$.28	\$.25		\$.25
3/4	2	.30	.45	.38	\$.55	.38
1	$2\frac{1}{2}$.50	.70	.60	.80	.60
11/4	3	.65	.90	.80	1.05	.80
11/2	$3\frac{1}{2}$.85	1.25	1.05	1.50	1.05
2	4	1.25	2.00	1.55	2.40	1.55
21/2	$4\frac{1}{2}$	2.00	3.50	2.50	西美尔 。 一名诗	2.50
3	5	3.00	5.00	3.75		3.75

Special Wide Pattern Return Bends



Size	Center to Center	PRICE	HAND EACH	Size	Center to Center	RIGHT PRICE,	
Inches	Inches	Black	Galv.	Inches	Inches	Black	Galv.
3/8 3/4 3/4	11/2	\$.25	\$.30	2	5	\$3.00	\$4.00
3/4	4	1.00	1.35	2	6	4.00	5.00
3/4	6	1.25	1.65	3	71/2	5.00	6.50
1	6	1.25	1.70	3	8	5.00	6.50
11/4	6	1.25	1.70	4	6	8.00	
11/2	6	2.00	2.75	6	12	16.00	

Prices of return bends for medium and extra heavy service upon application. In ordering, state whether black or galvanized fittings are wanted.

Malleable Iron Male Union Elbows



Malleable Iron Female Union Elbows

Size Inches 1/4 3/8	PRICE, Black \$.38	Each Galv. \$.57	Size Inches	PRICE Black \$.90 1.05	Galv. \$1.35	
1/2 3/4 1	.42 .54 .63	.63 .81 .95	2 21/2	1.55 2.85	1.58 2.35 4.30	

Malleable Iron Male Union Tees

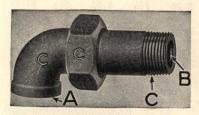


Malleable Iron Female Union Tees

Size In.	Black	EACH Galv.	In.		Galv.		
1/4 3/8	\$.40 .43	\$.60 .65	$\frac{1\frac{1}{4}}{1\frac{1}{2}}$	\$.95 1.15	\$1.45 1.75		
1/2 3/4	.45 .57			1.70 3.20	2.55 4.80		
1	.70	1.05					PASSAGE

Circulating Boiler Fittings

Malleable Iron-Galvanized



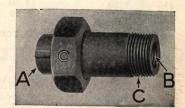
No. 586, Boiler Elbow With Union



No. 587, Boiler Elbow



No. 588, Boiler Coupling



No. 589, Boiler Coupling With Union

Size Inches A B C	Boiler Elbows	GALVANIZED, I Boiler Elbows with Union	PRICE, EACH Boiler Coupling	Boiler Coupling with Union
3/4x3/4x1	\$.40	\$.75	\$.40	\$.75
$\frac{3}{4}$ $\frac{1}{2}$ \frac	.40	.75	.40	.75 .60

Hydraulic Malleable Iron Screwed Fittings



	45° E	lbows			
Size Inches	Price Each	Size Inches	Price Each		
1/4	\$.25	2	\$1.10		
1/ ₄ 3/ ₈ 1/ ₂ 3/ ₄	.30	21/2	1.85		
1/2	.35	2½ 3	2.85	1 1	
3/4	.42	31/2	4.00		
1	.50	4	5.00	The second	
11/4	.65	5	7.50	174	
11/2	.85	6	10.50		



Long Turn Elbows

		Each
		\$4.50
.80		6.50
1.10	4	7.00
1.60	5	13.00
2.40	6	17.50
	1.10 1.60	Each Inches \$.64 3 .80 3½ 1.10 4 1.60 5

		5	rees		
Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
1/4	\$.30	11/2	\$1.05	5	\$9.75
3/8 1/2 3/4	.40	2	1.35	6	14.25
1/2	.45	21/2	2.25	8	32.00
3/4	.50	3	3.60	10	55.00
1	.60	31/2	5.00	12	90.00
11/4	.80	4	6.50	14.	



			Cou	plings		
	Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
*	1/4 3/2	\$.20 .25	1½ 1½	\$.55 .70	31/2	\$3.25 4.25
	3/8 1/2 3/4	.30	2	.90	5	6.50
	3/4	.35	21/2	1.50	6	9.50
	1	.40	3	2.40		man le

Crosses						
Size Inches	Price Each	Size Inches	Price Each			
1/4	\$.60	2	\$2.70			
3/8	.80	21/2	4.50			
1/2	.90	3	7.20			
3/4	1.00	31/2	10.00			
1	1.20	4	13.00			
11/4	1.60	5	19.50			
11/2	2.10	6	28.50			



Reducers

Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
3/4	\$.30	11/4	\$.45	2	\$.70	3	\$2.25
1	.40	1 /2	.55	21/2	1.30		

Fittings are Recommended for the Following Hydraulic Working Pressures

Size Inches	Pressure Pounds	Size Inches	Pressure Pounds	Size Inches	Pressure Pounds
1 and Smaller	2000	21/2to 4	1000	8	600
11/4 to 2	1500	5 and 6	800	10 and 12	500
Long turn	lhows 450	alhows and	Proggos	roducing	gizog

are made to order by bushing in the sand from straight patterns, at a special price.

Reducing fittings carried in stock furnished at same price as

straight sizes.

For galvanizing, add 50 per cent to above lists.

Standard Malleable Iron Unions

For 150 Pounds Steam Working Pressure



Size		, Елен	Size	PRICE,		Size		, Елсн
In.	Black	Galv.	In.	Black	Galv.	In.	Black	Galv.
1/8 1/4	\$.18	\$.27	1	\$.33	\$.50	3	\$2.10	\$3.15
1/4	.18	.27	11/4	.46	.70	31/2	3.65	5.50
3/8	.20	.30	11/2	.58	.90	4	4.35	6.50
1/2	.22	.33	2	.75	1.15			
3/8 1/2 3/4	.27	.40	21/2	1.55	2.35			



Star Malleable Iron Unions

For 300 Pounds Working Pressure

This union is made of malleable iron and has a ground joint.

The seat is made of bronze.

Size	PRIC	Е, ЕАСН	Size		E, EACH
Inches	Plain	Galvanized	Inches	Plain	Galvanized
1/4	\$.30	\$.45	11/4	\$1.20	\$1.80
3/8	.40	. 60	11/2	1.60	2.40
1/2	.50	.75	2	2.00	3.00
3/4	.60	.90	21/2	3.20	4.80
1	.80	1.20	3	4.80	6.20

New Walworth Kewanee Unions



3-inch and Smaller, 250 Pounds Steam Working Pressure; 3½-inch and Larger, 200 Pounds

Has patented combination manganese bronze to steel ball joint, up to 3 inches, inclusive; brass to iron ball joint, 3½ and 4 inches, with non-corrosive thread connection. Each union tested with extreme compressed air pressure under water. No gasket required.

Size		, EACH	Size		, Елсн	Size	PRICE,	Елсн
In.	Black	Galv.	In.	Black	Galv.	In.	Black	Galv.
1/8	\$.30	\$.45	1	\$.80	\$1.20	3	\$4.80	\$7.20
1/4	.30	.45	11/4	1.20	1.80	31/2	6.50	9.75
1/4 3/8 1/2 3/4	.40	.60	11/2	1.60	2.40	4	10.00	15.00
1/2	.50	.75	2	2.00	3.00			
3/4	.60	.90	21/2	3.20	4.80		LP. III	

H-P-M Forgsteel Hex Screwed Unions

Rated for 5000 pounds working pressure and tested at 12000 pounds hydrostatic pressure. There are no inserted seats to work loose.

Furnished either solid steel to steel or one end of solid steel and the other of solid stainless steel. In the latter case the beveled end that screws into the hex nut is of stainless steel.

The joint may readily be broken and reassembled—always tight.

	PRICE	E, EACH—		—PRI	CE. EACH
Size Inches	Steel to Steel	Steel to Stainless Steel	Size Inches	Steel to	Steel to
			inches	Steel	Stainless Steel
1/4	\$1.70	\$2.00	1	\$3.80	\$5.50
1/4 3/8 1/2 3/4	1.90	2.30	11/4	5.60	
1/2	2.30	2.90	11/2	7.50	
3/4	2.80	4.50			



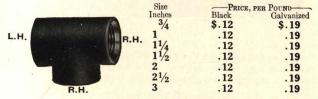
Plain Pattern Malleable Iron Railing **Fittings** No. 61 Elbows

	Size	PRICE, 1	PER POUND
	· Inches	Black	Galvanized
	3/4	\$.12	\$.19
	R.H. 1	.12	.19
F 11 1 1 1 1	11/4	.12	.19
	11/2	.12	.19
	2	.12	.19
R.H.	21/2	.12	.19
	3	.12	.19

No. 62 Side Outlet Elbows

Size	PRICE	, PER POUND————————————————————————————————————		
Inches	Black	Galvanized	No. of the last	(A)
3/4	\$.20	\$.28	ALCON	
1	.20	.28 R.H.		R.H.
11/4	.20	.28		
11/2	.20	.28		
2	.20	.28		
2½ 3	.20	.28	R.H.	
3	.20	.28	п.п.	

No. 63 Tees



No. 64 Side Outlet Tees

			L.H.
Size	PRICE,	PER POUND	
Inches	Black	Galvanized	
3/4	\$.20	\$.28	
1	.20	.28	
11/4	.20		R.H.
11/2	.20	.28 R.H.	
2	.20	.28	
1½ 2 2½ 3	.20	.28	
3	.20	.28	
			RH

No. 65 Crosses

L.H.	Size	-PRICE,	PER POUND-
	Inches	Black	Galvanized
	3/4	\$.20	\$.28
	1	.20	.28
R.H.	R.H. 11/4	.12	.19
	11/2	.12	.19
	2	.12	.19
	21/2	.12	.19
R.H.	3	.12	.19

No. 66 Side Outlet Crosses

Size	PRICE I	PER POUND——	R H.
Inches	Black	Galvanized	
3/4	\$.20	\$.28	
1	.20	.28	
11/4	.20	.28 R.H.	R.H.
$1\frac{1}{2}$.20	.28	1000
2	.20	.28	
2 ¹ / ₂ 3	.20	.28	H.
3	.20	.28	R.H.

Fittings larger than 2-inch are made to order only.

Fittings larger than z-inch are made to order only. Fittings are furnished tapped as shown, or right hand on all openings when so specified, at regular price. Tapped otherwise will be charged at 15 per cent additional price. Reducing sizes are made to order at a special price and unless otherwise specified will be tapped same as straight fittings

as above.

Fittings are reamed for slip joints when so specified at an additional price. Inquiries and orders should be accompanied by sketches showing clearly which openings are to be so reamed.

Malleable Iron Railing Fittings

A		No. 1	Elbows	
	Size Inches	Price Each	Size Inches	Price Each
A Marian Carlo	1/2	\$.15	11/2	\$.45
V V	1/2 3/4	.18	2	.72
	1	.20	21/2	1.60
	11/4	.35	3	2.25

No. 2 Side Outlet Elbows

Size Inches	Price Each	Size Inches	Price Each
1/2 3/4	\$.20	11/2	\$.50
3/4	.23	2	.80
1	.25	21/2	1.75
11/4	.40	3	2.50



		No.	3 Tees	
	Size Inches	Price Each	Size Inches	Price Each
	1/2	\$.20	11/2	\$.50
V	13/4	.23	2 21/2	.75 1.75
	11/4	.40	3 2	2.50

No. 4 Side Outlet Tees

	T DIGE	Outiet	1 663
Size Inches	Price Each	Size Inches	Price Each
1/2 3/4	\$.30	11/2	\$.55
1	.33	21/2	1.90
11/4	.45	3	2.60





3	2.60	STATES .	
DT ZERY.	No.	5 Crosses	
Size Inches	Price Each	Size Inches	Pric Eacl
1/2 3/4	\$.30	11/2	\$.50
1	.33	21/2	1.80
11/4	.45	3.	2 60

No. 6 Side Outlet Crosses

Size Inches	Price Each	Size Inches	Price Each
1/2 3/4	\$.35 .38	11/2	\$.65 1.35
1 11/4	.40 .50	2 ¹ / ₂	2.00 2.75



No. 7 Flanges

	Size Inches	Price Each	Size Inches	Price Each
	1/2	\$.14	11/2	\$.28
	3/4.	.15	2	.30
THE RESERVE TO SERVE THE PARTY OF THE PARTY	1	.15	21/2	.50
	11/4	.20	3	.75

No. 8 Square Floor Flanges

140. 0	Square	LIOOL	rianges
Size Inches	Price Each	Size Inches	Price Each
1/2 3/4	\$.16	11/2	\$.50
3/4	.18	2	.90
1	.20	21/2	1.35
11/4	.40	3	2.50



No. 9 Male or Female Acorns

Size Inches	Price Each	Size Inches	Price Each
1/ ₂ 3/ ₄	\$.16	11/2	\$.35
3/4	.18	2	.90
1	.20	21/2	1.35
11/4	.25	3	2.00

In ordering railing fittings, describe kind wanted by number and size. Railing fittings will always be furnished with all openings tapped right-hand unless otherwise specified. Railing fittings tapped right and left or left-hand will be charged for at 15 per cent additional, net. For galvanized railing fittings, add 50 per cent to above list.

45° Angle Malleable Iron Railing Fittings



No. 700A



No. 701A



No. 702A



No. 704A

Right and left and left, 25 per cent extra in quantity less than 25 pounds. Right and left and left, 15 per cent extra in larger quantities.



No. 706B

Angle railing fittings differing from those shown at special prices.

Reducing sizes, 15 per cent extra.

Price, Railing Fittings, Blackper pound \$.18 Galvanized.....

					PIPE	SIZE INC	H———	-
No.		Description	1	1 1	4 1	1/2 2	21/2	
700	A	Elbow	.\$.40	\$.70	\$.90	\$1.44	\$2.00	\$3.00
7001	2A	Side Outlet					2.30	3.40
701	A	Elbow	40	.70	.90	1.44	2.00	3.00
7011	2A	Side Outlet	50	.80	1.00	1.60	2.30	3.40
702	A	Tee	50	.80	1.00	1.60	2.40	3.80
703	A	Side Outlet	70	.90	1.10	1.80	2.80	4.30
704	A	Cross	70	.90	1.16	2.00	3.00	4.50
705	A	Side Outlet			1.30	2.70	3.50	5.20
706	A	Floor Flange	30	.40	.56	.60	1.00	1.50

Malleable Iron Adjustable Railing Fittings



No. 70 Elbows Price Size Inches Price Each Inches \$1.10 11/2 \$1.70 11/4 1.25

	No. 7	1 Tees	
Size Inches	Price Each	Size Inches	Price Each
1	\$1.30	11/2	\$2.00
11/4	1.50	2	2.50





No. 72 Stair Tees

Size Inches	Price Each	Size Inches	Price Each
1	\$1.30	11/2	\$2.15
11/4	1.60	2	2.50

	No. 73	Crosses	
Size Inches	Price Each	Size Inches	Price Each
1	\$1.50	11/2	\$2.35
11/4	1.75	2	2.75



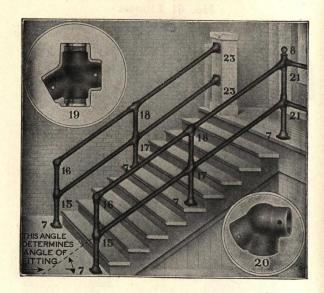


Price Each Size Inches Price Each \$1.50 11/2 \$2.50 1.85

No. 74 Stair Crosses

Add 50 per cent to above prices for galvanized railing fittings. All openings furnished tapped right hand. When otherwise ordered 15 per cent additional will be charged.

Malleable Iron Stair Rail Fittings



These fittings take the place of special angle fittings and are time and money savers. They have a good appearance and are stronger than the adjustable type.

These slip and screwed joint variable angle fittings are made so that all posts are screwed connections, making a solid, substantial job.

The posts are first screwed together and the rails are then fitted and riveted. The run of the fittings are made so that the pipe will slip into the fitting and at the same time allow for an angular variation of 2½ degrees on each side of the center line. In other words, a 30-degree angle fitting may be used on a railing varying from 27½ to 32½ degrees.

After the runs or angle pipes have been slipped into the fittings the pipe is drilled, pins are inserted, riveted over, and the ends of the pins filed smooth. When a railing is correctly finished using these fittings the entire job presents as neat an appearance as if the fittings had been made special to the correct angle.

These fittings may be used on any stair rail between 271/2 and 471/2 degrees, as follows:

30° fittings—for angles between 27½° and 32½°.

35° fittings—for angles between 32½° and 37½°.

40° fittings—for angles between 371/2° and 421/2°.

45° fittings—for angles between 42½° and 47½°.

			-PRICE, EACH -		1 1 1 1 1 1
Size Inches	No. 15 Angle Tee	No. 16 Angle Elbow	No. 17 Angle Cross	No. 18 Angle Tee	No. 19 Single An- gle Cross
1 11/4	\$1.30 1.50	\$1.10 1.25	\$1.50 1.75	\$1.30 1.50	\$1.50
11/2	2.00	1.70	2.35	2.00	1.75 2.35
2	2.50	2.25	2.75	2.50	2.75

	PRICE, EACH						
Size Inches	No. 20 Single Angle Tee	No. 21 Angle Tee R. H. Side Outlet	No. 22 Angle Tee L. H. Side Outlet	No. 23 Square Post An- gle Flange			
1 11/4	\$1.30 1.50	\$1.85 2.20	\$1.85 2.20	\$1.50 1.75			
11/2	2.00	3.00 3.60	3.00 3.60	1.90			

When ordering, specify number and angle of fitting required.

Cast Iron Screwed Fittings Straight Elbows







Size	RIGHT	RICE, EACH	Right and	Size		, EACH
In.	Black	Galv.	Left Blk.	In.	Black	Galv.
1/4	\$.05	\$.10	\$.06	31/2	\$1.05	\$2.10
3/8	.05	.10	.06	4	1.20	2.40
1/2	.06	.12	.07	41/2	1.75	3.50
3/4	.08	.16	.09	5	2.00	4.00
1	$.10\frac{1}{2}$.21	.12	6	2.75	5.50
11/4	.16	.32	.18	7	4.70	9.40
11/2	.20	.40	.23	8	6.75	13.50
2	.28	.56	.32	9	9.00	18.00
21/2	.50	1.00	.60	10	13.50	27.00
3	.75	1.50	.85	12	20.00	40.00

Straight	Pitched	Elbows
----------	----------------	--------

Size In.	Price Black Each	Size In. 11/4	Price Black Each	Size In.	Price Black Each	Size In.	Price Black Each
1/2 8/4	.10	11/2	φ.20	$\frac{2^{1/2}}{3}$	\$.65 1.00	4	\$1.50
1 /4	.13	2 2	.35	31/2	1.30		
		70.		0/2	1.50		

60° Elbows

Size In.	Price Black Each	Size In.	Price Black Each
1/2	\$.25	21/2	\$1.10
3/4	.30	3	1.65
1	.35	4	2.75
11/4	.45	5	5.00
11/2	.50	6	7.00
2	.60		

221/2° Elbows

Size In.	Black Each	Size In.	Price Black Each	Size In.	Price Black
	\$.25	11/2	\$.50		Each
$\frac{1}{2}$ $\frac{3}{4}$.30	2	.60	5	\$2.75
/4	.35	21/2	1.10		5.00
1/4	.45	3	1.65	6	7.00
/**		9	1.00		

Reducing Elbows

			-				100	
Size In.	PRICE, Black	Each Galv.	Size In.	Pri Black	CE, EACH Galv			
3/8	\$.06		3	\$.85	\$1.70			
1/2	.07	\$.14	31/2	1.20	2.40			
1/2 3/4	.09	.18	4	1.40	2.80			
1	.12	.24	41/2	2.00	4.00	a:		
11/4	.18	.36	5	2.30	4.60	Size In.	Black	E, EACH Galv.
11/2	.23	.46	6	3.15	6.30	10.00	\$10.50	\$21.00
2	.32	.64	7	5.40	10.80	10	15.50	31.00
21/2	. 60	1.20	8	7.75	15.50	12	23.00	46.00
			45	° Elb	ows		23.00	40.00
				RICE, EAC		Size	PRICE	е, Елен

In.	Black	Galv.	In.	Black	Galv.
1/2	\$.07	\$.14	4	\$1.45	\$2.90
3/4	.10	.20	41/2	2.20	4.40
1	.12	.24	5	2.50	5.00
11/4		.38	6	3.45	6.90
11/2	.24	.48	7	5.90	11.80
2	.34	.68	8	8.50	17.00
21/2	.60	1.20	9	11.25	22.50
3	.90	1.80	10	17.00	34.00
31/2	1.25	2.50	12	25.00	50 00

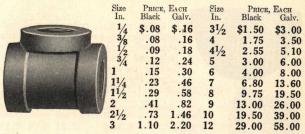
Pitched Reducing Elbows

Size PRICE, EACH In. Black Galv. 1/4 \$ 06 3/8 .06

\$.12

Síze In.	Price Black Each	Size In.	Price Black Each	Size In.	Price Black Each
3/4	\$.10	11/2	\$.25	3	\$1.00
1	.13	2	.35	31/2	1.30
11/4	.20	21/2	.65	10	90 Wh

Cast Iron Screwed Fittings Straight Tees



Reducing Tees



On Run



On Outlet

Size	PRICE, EA		Size	PRICE,	EACH-
In.	Black	Galv.	In.	Black	Galv.
3/8 1/2 3/4	\$.09	\$.18	4	\$2.00	\$4.00
1/2	.10	.20	41/2	2.95	5.90
3/4	.14	.28	5	3.50	7.00
1	.17	.34	6	4.60	9.20
11/4	.27	.54	7	7.80	15.60
$\frac{11/4}{11/2}$.33	.66	8	11.25	22.50
	.47	.94	9	15.00	30.00
2 ¹ / ₂	.83	1.66	10	22.50	45.00
3	1.25	2.50	12	33.50	67.00
31/2	1.75	3.50			000

Tees reducing on the run are described thus:

Tees reducing on the outlet are described thus:

1	1	
1½ 1¼	11/2	11/2
nd are read $1\frac{1}{2}x1\frac{1}{4}x1$.	and are read 11/2	

Straight Crosses

				· u·g··	. 0.0.
Size In.	PRICE, Black	Each Galv.	Size In.	PRICE, Black	Each Galv.
1/2	\$.16	\$.32	4	\$3.15	\$6.30
1/2 3/4	.22	.44	41/2	4.60	9.20
1	.27	.54	5	5.50	11.00
11/4		.84	6	7.25	14.50
11/2	.53	1.06	7	12.25	24.50
2	.75	1.50	8	17.50	35.00
21/2	1.30	2.60	9	23.50	47.00
3	2.00	4.00	10	35.00	70.00
31/2	2.70	5.40	12	52.50	105.00



Reducing Crosses



	- 3				
Size In.	PRICE, Black	EACH Galv.	Size In.	Prici	E, EACH Galv
1/2	\$.18	\$.36	4	\$3.50	\$7.00
3/4	.25	.50	41/2	5.10	10.20
1	.30	.60	5	6.00	12.00
11/4	.46	.92	6	8.00	16.00
11/2	.60	1.20	7	13.50	27.00
2	.83	1.66	8	19.25	38.50
21/2	1.45	2.90	9	26.00	52.00
3	2.20	4.40	10	38.50	77.00
31/2	3.00	6.00	12	58.00	116.00

Y Branches

Size In.	PRICE, Black	EACH Galv.	Size In.	PRICE, Black	EACH Galv.			
1/2	\$.20	\$.40	4	\$4.00	\$8.00			
1/2 3/4	.28	.56	41/2	5.90	11.80			
1	.34	.68	5	7.00	14.00			
11/4	.54	1.08	6	9.20	18.40			
11/2	. 66	1.32	7	15.60	31.20			
2	.94	1.88	8	22.50	45.00			
21/2	1.66	3.32	10	45.00	90.00			
3	2.50	5.00	12	67.00	134.00			
31/2	3.50	7.00			937			



Cast Iron Screwed Fittings Close Pattern Return Bends



Close pattern return bends will not make up parallel coils, as the distance, center to center, of two adjacent bends is greater than the center to center of opening of a single bend.

		PRICE, EACH						
Size Inches	Center to Center Inches	Black RIGHT HAND—Galvanized		Right and Left Black	Left Hand Black			
1/2 3/4	11/4 11/2	\$.18 .20	\$.36 .40	\$.21 .23	\$.21 .23			
1 11/4	$\frac{134}{214}$.22	.44	.26	.26			
11/2	$\frac{21/2}{31/4}$.40 .57	.80 1.14	.46	.46			
2½ 3	$\frac{3\frac{3}{4}}{4\frac{1}{4}}$	1.20 1.70	2.40 3.40	1.40 1.95	1.40 1.95			
4	6	5.00	10.00	5.25	5.25			

Close Pattern Pitched Return Bends

Length Size Coil Inches Feet	Price R.H. Each	Size Inches	Length Coil Feet	Price R.H. Each	Size Inches	Length Coil Feet	Price R.H. Each
1 3	\$.26	1	6	\$.26	11/4	5	\$.33
1 4	.26	1	8	.26	11/4	6	.33
1 5	.26	11/4	4	.33			

All right and left pitched return bends made to order; 1-inch bends for coils longer than 8 feet tapped straight. Pitched return bends have length of coil marked on them.

Open Pattern Return Bends



	Center	P	RICE, EA	СН			-	PRICE, EA	
Size	Center	RIGHT	HAND	Right and Left	Size	Center	Right	T HAND	Right and Left
In.	In.	Black	Galv.	Black	In.	In.	Black		Black
3/4	17/8	\$.26	\$.52	\$.30	2	41/2	\$.80	\$1.60	\$.92
1	23/8	.30	.60	.35	21/2	51/2	1.35	2.70	1.55
11/2	3	.40	.80	.46	3		2.20	4.40	
11/4	31/2	.55	1.10	.64	4	71/2	6.50	10.00	
			- 100	10 mg 10 mg		-	-		

Return Bends with Back Outlet

	Center	1	PRICE, EACH				Center PRICE, EACH			
	to			Right	8	to	1 1		Right	
Size	Center	RIGHT		and Left	Size	Center	RIGHT	HAND	and Left	
In.	In.	Black	Galv.	Black	In.	In.	Black	Galv.	Black	
3/4	17/8	\$.38	\$.76	\$.42	2	31/4	\$1.15	\$2.30	\$1.30	
1	21/4	.42	.84	.48	21/2	33/4	2.00	4.00	2.30	
$\frac{11/4}{11/2}$	21/4	.60	1.20	.70	3	41/4	3.00	6.00	3.50	
11/2	21/2	.80	1.60							
B	ack ou	tlet of	R. &	L. retu	rn be	nds is	always	tappe	d right.	
h	1							LIP		

Wide Pattern Return Bends

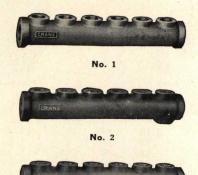
hand.



Size	to Center	PRICE, RIGHT		Size	Center to Center		, EACH HAND
Inches		Black	Galv.	Inches	Inches	Black	Galv.
1	3	\$.45	\$.80	11/2	6	\$1.60	\$2.60
1	4	.50	.90	11/2	8	2.00	3.25
1	5	.60	1.10	2	47/8	1.75	3.00
1	6	.75	1.30	2	6	2.00	3.25
1	8	1.00	1.60	2	7	3.00	4.50
11/4	4	1.00	1.57	2	8	3.50	5.00
11/4	6	1.25	2.00	4	11	7.50	11.00
11/2	47/8	1.30	2.30				

Cast Iron Branch Tees

For Steam Pressures up to 100 Pounds



No 3

The run and back opening of branch tees are tapped the same size as branches, unless otherwise ordered.

	The attention		Price	E, EACH —			
	1	INCH BRANCE	HES——	11/4-Inch Branches			
No. of	CENTER 7	RUN, INCHES	2 Inches	CENTER	TO CENTER, 3 RUN, INCHES	INCHES	
Branches		11/2	2	11/4 or 11/2	2	21/2	
2	\$.90	\$1.00	\$1.15	\$1.30		-/2	
3	1.05	1.15	1.35	1.65	\$1.90	\$2.40	
4	1.15	1.30	1.60	2.00	2.40	2.85	
5	1.35	1.45	1.85	2.40	2.90	3.55	
6	1.60	1.75	2.10	2.80	3.30	3.95	
7	1.90	2.20	2.45	3.20	3.90	4.20	
8	2.20	2.45	2.75	3.60	4.50	4.95	
9	2.65	2.90	3.40	4.30	5.25	6.15	
10		3.30	4.00	4.80	5.85	6.85	
11		4.50	4.80	5.00	6.25	7.25	
12		4.75	5.10	5.25	6.50	7.65	
13		5.50	6.00	6.00	7.00	8.25	
14		7.00	7.25	6.75	7.75	9.00	
15		7.50	7.75	7.50	8.50	9.75	
16		8.00	8.25	8.50	9.50	10.75	

	11	-INCH BRANC	PRICE	, EACH	INCH BRANCHE	
	CENTER	TO CENTER, 31	CENTER	TO CENTER, 41	Inches	
No. of		- Run, Inches			RUN, INCHES -	
Branch	es 1½ or 2	21/2	3	2	$2\frac{1}{2}$ or 3	31/2
2	\$2.10			\$4.10		4
3	2.70	\$3.45	\$3.80	5.25	\$5.75	\$6.25
4	3.35	4.15	4.60	6.40	7.00	7.75
5	4.00	5.00	5.50	7.65	8.50	9.25
6	4.65	5.75	6.25	8.80	9.75	10.75
7	5.25	6.50	7.25	10.60	11.75	13.00
8	5.85	7.00	7.75	11.50	12.75	14.00
9	6.50	8.25	9.00	12.25	13.50	15.00
10	7.60	9.25	10.00	13.50	15.00	16.50
11	8.00	9.75	10.75			20.00
12	8.50	10.50	11.50			

Nos. 1 and 2 branch tees with branches tapped left hand, and Nos. 3 branch tees with branches tapped right hand, can be furnished at the regular prices.

1-inch branch tees, 1-inch or $1\frac{1}{4}$ -inch run, are $1\frac{3}{4}$ inches, inside diameter. 1-inch branch tees, $1\frac{1}{2}$ -inch or 2-inch run, are $2\frac{1}{4}$ inches inside diameter.

11/4-inch branch tees are all 21/2 inches inside diameter.

1½-inch branch tees are all 2¾ inches inside diameter.

2-inch branch tees are all 3½ inches inside diameter.

Always order branch tees by size and number.

Cast Iron Screwed Fittings

Reducers



Size	PRICE	, EACH	Size	PRICE, EACH		
In.	Black	Galv.	In.	Black	Galv.	
41/2	\$1.85	\$3.70	8	\$6.75	\$13.50	
5	2.00	4.00	9	8.35	16:70	
6	2.70	5.40	10	10.00	20.00	
7	5.35	10.70	12	15.00	30.00	

Caps

Size	PRICE,		Size	PRICE	EACH .
In.	Black	Galv.	In.	Black	Galv.
4	\$.87	\$1.74	8	\$2.85	\$5.70
41/2	1.05	2.10	9	4.75	9.50
5	1.20	2.40	10	5.50	11.00
6	1.55	3.10	12	7.00	14.00
7	2.50	5.00			



Bushings



oize	PRICE,		Size	PRICE.	EACH	
In.	Black	Galv.	In.	Black	Galv.	
3/8	\$.04	\$.08	4	\$.50	\$1.00	
1/2	.04	.08	41/2	.75	1.50	
3/4	.05	.10	5	.93	1.85	
1	.06	.12	6	1.25	2.50	
11/4	.07	.14	7	1.87	3.75	
11/2	.09	.18	8	2.75	5.50	
2	.14	.28	9	3.25	6.50	
21/2	.21	.42	10	3.75	7.50	
3	.30	.60	12	5.00	10.00	
31/2	.40	80				

Plugs

Size	PRICE,	Елсн	Size	Prici	E, EACH
In.	Black	Galv.	In.	Black	Galv.
1/8	\$.02	\$.04	31/2	\$.38	\$.76
1/4	.02	.04	4	.42	.84
3/8	.02	.04	41/2	.65	1.30
1/2	.02	.04	5	.88	1.75
3/4	.03	.06	6	1.20	2.40
1	.04	.08	7	1.85	3.70
11/4	.05	.10	8	2.75	5.50
11/2	.07	.14	9	3.25	6.50
2	.10	.20	10	3.75	7.50
21/2	.18	.36	12	5.00	10.00
3	.25	. 50			



Solid Plugs

Sıze In.	Price Each Black	Size In.	Price Each Black	Size In.	Price Each Black	Size In.	Price Each Black
1/4 3/8	\$.04 .04	$\frac{11/4}{11/2}$	\$.09 .11	31/2	\$.57 .63	8 10	\$4.15 5.75
1/2 3/4	.04	2 21/2	.15	4½ 5	1.00	12	7.50
1	.08	3	.38	6	1.35 1.80		* : : : :

Countersunk Plugs



Size In.	Each Black	Size In.	Each Black	Size In.	Each Black
1/4	\$.04	11/4	\$.09	31/2	\$.92
3/8	.04	11/2	.11	4	1.10
1/2	.04	2	.15	5	2.00
3/4	.06	21/2	.30	6	3.50
1	.08	3	.40		

Price Price

Locknuts

Size	PRICE,	EACH	Size	PRICE	EACH
In.	Black ·	Galv.	In.	Black	Galv.
$2^{1/2}$	\$.27	\$.54	6	\$1.30	\$2.60
3	. 34	.68	7	1.70	3.40
31/2	.47	.94	8	2.35	4.70
4	. 64	1.28	9	2.70	5.40
41/2	.85	1.70	10	3.00	6.00
5	. 90	1.80	12	4.00	8.00



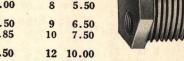
Cast Iron Eccentric Reducing Couplings



Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
11/4	\$.55	3	\$2.40	5	\$6.00
11/2	.72	31/2	3.00	6	8.00
2	1.00	4	4.00	7	9.00
21/2	1.50	41/2	5.00	8	11.00

Cast Iron Eccentric Bushings

Size Inches 11/4 11/2	Price Each \$.22	Size Inches 31/2	Price Each \$.80 1.00	Size Inches 7	Price Each \$3.75 5.50
2 2½	.27 .42	4½ 5	1.50 1.85	9 10	6.50 7.50
3	.60	6	2.50	12	10.00



Blow-Off Crosses

The utility and convenience of this special fitting for feeding and blowing-off boilers will recommend it. It is most conveniently placed in the position shown in the illustration. The large openings on the run are of the same size.

The reduced openings are usually of one size, but can be made to suit requirements. The reduced top in-



Standard

let is used for feeding the boiler.

To the lower reduced outlet the blow-off valve or cock is connected. The blind flange is removable for cleaning out purposes.

Standard

	For 125 P	ounds Stea	m Working	Pressure	
Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
2½x1½	\$9.00	3x2	\$10.00	5x3	\$18.00
2½x1½ 2½x2 2½x1½	9.00	4x2 4x2½	12.00 12.00	6x2½ 6x3	27.00 27.00
3 x1½	10.00	5x21/2	18.00		

Extra Heavy

	For 250 Pounds Steam	Working Pressure	
Size	Price	Size	Price
Inches	Each	Inches	Each
21/2x21/2	\$12.00	4x2	\$16.00
3 x2	13.50	4x21/2	16.00

Cast Iron Right and Left Couplings



Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
1/4 3/8	\$.07 .08	11/4-11/2	\$.25 .30	31/2	\$1.50
1/2	.11	2	.50	41/2	2.75
1	.15	2½ 3	.85 1.20	5 6	3.30 4.40
Do	uble th	ne list f	or galv	vanized.	

Extra Heavy Cast Iron Return Bends

For 250 Pounds Steam **Working Pressure**



	Center to	0		Center to		C	enter to	
Size In.	Center In.	Price Each	Size In.	Center In.	Price Each	Size In.	Center In.	Price Each
1	2	\$.63	11/4	21/2	\$.82	11/2	21/2	\$1.15
1	23/8		11/4	31/16	.97	2	31/4	2.20
1	21/2	.75	11/4	31/4	1.10	2	4	2.25
1	31/4	.90	11/4	31/2	1.25	2	6	2.75
1	4	.97	11/4	4	1.45	21/2	47/8	3.15
1	41/2	1.05	11/4	5	1.55	3	41/2	3.75
1	5	1.10	11/4	6	1.80			

For galvanized extra heavy fittings, double above lists.

Extra Heavy Cast Iron Fittings For 250 Pounds Steam Working Pressure

Elbows



	PRICE	, EACH		PRICE	E, EACH
Size		Reducing	Size		Reducing
In.	Elbows	Elbows	In.	Elbows	Elbows
1/2	\$ 25	\$.35	41/2	\$4.25	\$5.30
3/4	.30	.40	5	5.50	6.80
1	.35	.45	6	8.00	10.00
11/4	.45	.55	7	12.00	15.00
11/2	. 60	.75	8	17.00	21.00
2	.75	.95	9	25.00	31.00
21/2	1.25	1.55	10	28.00	35.00
3	2.00	2.50	12	40.00	50.00
31/2	2.75	3.40	14	110.00	
4	3.50	4.40	16	150.00	

			45	Elb	ows
Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each
1/2 3/4	\$.35	21/2	\$1.50	6	\$9.75
3/4	.40	3	2.50	7	14.50
1	.44	31/2	3.50	8	21.00
11/4	. 55	4	4.50	9	31.00
11/2	.70	41/2	5.50	10	34.00
2	.90	5	6.75	12	48.00
				Tees	5



		2	
1			1
V		de la	
	D	T-1	

\$.40

	Size		EACH Reduc.	Size		E, EACH Reduc.
	In.	Tees	Tees	In.	Tess	Tees
	1	\$.55	\$.70	5	\$8.25	\$10.25
ı	11/4	.70	.90	6	12.00	15.00
	11/2	.90	1.15	7	18.00	22.50
	2	1.15	1.40	8	25.00	31.00
	21/2	1.80	2.25	9	35.00	44.00
	3	3.00	3.75	10	42.00	52.00
	31/2	4.25	5.30	12	60.00	75.00
	4	5.50	6.85	14	150.00	
	41/2	6.75	8.50	16	200.00	220.00

				C	rosses	
	PRICE	, EACH		Pric	E, EACH	
a.		Reduc-			Reduc-	
Size In.	0	ing	Size	~	ing	
		Crosses	In.	Crosses	Crosses	
1/2	\$.60	\$.80	4	\$7.00	\$8.75	
3/4	.65	.85	41/2	8.50	10.00	
1	.70	.90	5	11.00	13.75	
11/4	.90	1.15	6	16.00	20.00	
11/2	1.20	1.50	7	24.00	30.00	
2	1.50	1.85	8	34.00	42.00	
21/2	2.50	3.15	9	48.00	60.00	
3	4.00	5.00	10	56.00	70.00	
31/2	5.50	6.85	12	80.00	100.00	

\$.55



Y Branches	
PRICE, EACH Reduc-	PRICE, EACH
Size Y ing Y Size	Y Reduc- ing Y
1/2 \$.90 4	Branches Branches \$11.00 \$13.75
3/4 1.10 41/2	13.50 16.88
1 1.10 \$1.38 5 11/4 1.35 1.75 6	16.50 20.63 24.00 30.00
11/2 1.80 2.25 7	24 00 30.00 36.00 45.00
2 2.25 2.88 8	50.00 62.50
$2\frac{1}{2}$ 3.75 4.50 9 3 6.00 7.50 10	72.00 90.00 84.00 105.00
31/2 8.25 10.63 12	120.00 150.00
Reducers	

			neu	ucers			
Size Inches	Price Each	Size Inches	Price	Size	Price	Size	Price
			Each	Inches	Each	Inches	Each
1/2	\$.28	2	\$.83	41/2	\$4.68	9	\$27.50
1/2 3/4	.33	21/2	1.38	5	6.00	10	31.00
1	.39	3	2.20	6	8.80	12	44.00
11/4	.50	31/2	3.05	7	13.20		77.00
			Control of the Control				
11/2	.66	4	3.85	8	18.75		
			PI	ugs			
Size	Price	Size	Price	Size	Price	Size	Price
Inches	Each	Inches	Each	Inches	Each	Inches	Each
1/2 3/4	\$.04	2	\$.15	41/2	\$1.00	9	\$5.00
3/4	.06	21/2	.27	5	1.35	10	5.75
1	.08	3	.38	6	1.80	12	7.50
11/4	.09	31/2	.57	7	2.80	12	
11/2	.11	4	. 63	8	4.15		
For	galvani	ized extr	a heavy	fittings,	double a	bove lis	sts.

Cast Iron Long Sweep Fittings

For Working Pressures: 125 Pounds Steam; 150 Pounds Water

No. 1 Elbows



Size	Black	Size	Black
Inches	Price, Each	Inches	Price, Each
3/4	\$.26	41/2	\$5.50
1	.32	5	6.50
11/4	.40	6	8.75
11/2	.55	7	13.00
2	.80	8	17.00
21/2	1.20	9	25.50
3	2.25	10	30.00
31/2	3.25	12	40.00
4	3.50		

For prices of reducing sizes, bushed in sand, add 50 per cent to those above. For galvanized fittings, double list given above.

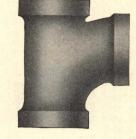
No. 2 Elbows

Size	Black	Size	Black
Inches	Price, Each	Inches	Price, Each
1	\$.64	41/2	\$11.00
11/4	.80	5	13.00
11/2	1.10	6	17.50
2	1.60	7	26.00
$\frac{2^{1/2}}{3}$	2.40	8	34.00
3	4.50	9	51.00
31/2	6.50	10	60.00
4	7.00	12	80.00
T7		1 .	



For prices of reducing sizes, bushed in sand, add 50 per cent to those above. For galvanized fittings double list given above.

No. 3 Tees



			,
Size Inches	Black Price, Each	Size Inches	Black Price, Each
1	\$.48	41/2	\$8.25
11/4	.60	5	9.75
11/2	.82	6	13.25
2	1.20	7	19.50
$\frac{2^{1/2}}{3}$	1.80	8	25.50
	3.40	9	38.00
31/2	4.90	10	45.00
4	5.25	12	60.00

For prices of reducing sizes, bushed in sand, add 50 per cent to those above. For galvanized

fittings double list given above.

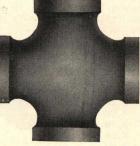
No. 5 Tees

Size	Black	Size	Black
Inches	Price, Each	Inches	Price, Each
1	\$.64	41/2	\$11.00
11/4	.80	5	13.00
11/2	1.10	6	17.50
2	1.60	7	26.00
21/2	2.40	8	24.00
3	4.50	9	51.00
31/2	6.50	10	60.00
4	7.00	12	80.00

For prices of reducing sizes, bushed in sand, add 50 per cent to those above. For galvanized fittings double list given above.



No. 4 Crosses



Size Inches	Black Price, Each	Size Inches	Black Price, Each
1 11/4	\$.85 1.10	41/2	415 50
11/2	1.50	5 6	\$17.50 24.00
21/2	2.15	7 8	35.00 45.00
21/2	6.00	9	68.00
31/2	8.75 9.50	10 12	80.00 107.00
17			

For prices of reducing sizes, bushed in sand, add 50 per cent. For galvanized fittings, double list given above.



Standard Cast Iron Flange Unions

For 125 Pounds Steam Working Pressure

Sizes 14-inch and larger are to be used with O. D. pipe of the same size.

	Diam					Diam.	No.		
Size	Flange	es of		PRICE, EACH		Flanges	of	PRICE	, EACH
In.	In.	Bolts	Black	Galv.	In.	In.	Bolts	Black	Galv.
1/2 3/4	$2\frac{3}{4}$	3	\$.40	\$.80	5	91/8	5	\$3.15	\$6.30
3/4	$3\frac{3}{8}$	3	.46	.92	6	103/8	6	3.95	7.90
1	$3\frac{5}{8}$	3	. 52	1.04	7	115/8	7	5.50	11.00
11/4	$4\frac{1}{8}$	4	. 64	1.28	8	123/4	8	7.00	14.00
11/2	$4\frac{1}{2}$	4	.78	1.56	9	137/8	9	10.00	20.00
2	$5\frac{1}{8}$	4	1.00	2.00	10	151/2	10	11.50	23.00
21/2	57/8	4	1.25	2.50	12	177/8	12	16.00	32.00
3	$6\frac{5}{8}$	4	1.50	3.00	14	$20\frac{5}{8}$	14	28.00	56.00
31/2	$7\frac{1}{4}$	4	1.80	3.60	15	205/8	14	35.00	70.00
4	$7\frac{3}{4}$	5	2.10	4.20	16	23	16	60.00	
41/2	83/8	5	2.70	5.40				2	

Extra Heavy Cast Iron Flange Unions

For 250 Pounds Saturated Steam
Working Pressure



Size In.	Flanges		rice ach	Size In.	Diam. Flanges In.	No. of Bolts	Price Each
$\frac{1}{2}$ $\frac{3}{4}$		4 \$.	70	4	8	7	\$3.15
3/4			70	41/2	83/4	8	4.00
1			.80	5	93/8	8	4.75
11/4			.00	6	107/8	9	6.00
11/2			.15	7	12	10	8.25
2			.50	8	131/4	10	10.50
21/2			.90	9	143/8	12	15.00
3			.25	10	$15\frac{3}{4}$	12	17.25
31/2	$7\frac{1}{2}$	6 2.	70	12	18	14	24.00

Extra Heavy Flange Unions

For 400 Pounds Steam Working Pressure



Sizes not listed below can be made to order.

For galvanized extra heavy flange unions, add 60 per cent to list below.

Size In.	Diam. Flange Inches	No. of Bolts	Price Each	Size In.	Diam. Flange Inches	No. of Bolts	Price Each	
1	41/2	4	\$1.80	4	91/4	8	\$8.80	
11/4	5	5	2.30	5	101/4	8	9.90	
11/2	6	5	3.20	6	113/4	8	11.60	
2	$6\frac{1}{2}$	5	3.50	7	13	. 10	21.00	
21/2	71/4	6	4.40	8	141/4	12	28.00	
3	$8\frac{1}{4}$	6	6.20	10	171/4	- 15	35.00	
$3\frac{1}{2}$	83/8	6	7.60	12	191/4	16	50.00	

Walworth Kewanee Flange Unions



Tested to 400 Pounds Hydraulic Pressure

Brass and malleable iron self-seating ball joint. No gasket required. Made entirely of the highest grade malleable iron, excepting the seat, which is of brass.

Size		E, EACH	Size		EACH	Size	PRICE	, EACH
In.	Black	Galv.	In.	Black	Galv.	In.		
1	\$.80	\$1.10	3	\$4.80	\$6.50	6	\$12.50	\$16.90
11/4	1.20	1.60	31/2	6.00	8.10		18.00	24.30
11/2	1.60	2.15	4	7.50	10.15	10	28.80	38.90
2	2.00	2.70	5	10.00	13.50			
21/2	3.20	4.30						

Common Cast Iron Flanges

Not Faced



Size	Price	Size	Price	Size	Price
Inches	Each	Inches	Each	Inches	Each
3/4×4	\$.22	31/2X 9	\$1.15	7x131/2	\$2.80
3/4×5	.30	31/2×10	1.50	7x14	3.25
1 x5	.30	4 x 8	.90	7x15	4.00
1 x6	.42	4 x 8½	1.00	8x13	2.80
11/4x41/2	.25	4 x 9	1.15	8x131/2	2.80
11/4x5	.30	4 x10	1.50	8x14	3.25
11/4x6	.40	41/2x 9	1.15	8x15	4.00
1½x5	.30	41/2x 91/4	1.25	8x16	5.00
1½x6	.40	4½x10	1.50	9x15	4.00
2 x6	.42	4½x11	1.75	9x16	5.00
$2 \times 6\frac{1}{2}$.50	5 x10	1.50	9x17	5.75
2 x7	.62	5 x11	1.75	10x16	5.00
2 x8	.90	5 x12	2.20	10x17	5.75
21/2x6	.42	5 x121/2	2.20	10x18	7.00
21/2×61/2	.50	6 x10	1.50	10x19	7.50
21/2x7	.62	6 x11	1.75	12x18	7.00
21/2×8	.90	6 x12	2.20	12x19	7.50
3 x61/2	.50	6 x12½	2.20	12x20	8.50
3 x7	.62	6 x13	2.80	14x20	8.50
3 x7½	.75	6 x13½	2.80	14x21	9.50
3 x8	.90	6 x14	3.25	15x21	9.50
3 x9	1.15	7 x12	2.20	15x221/4	
31/2×8	.90	7 x121/2	2.20	16x23 ¹ / ₂	14.00
31/2×81/2	1.00	7 x13	2.80	10.25%	18.00
- /2.0/2	2.00	. 410	2.30	• • • • • • • • • • • • • • • • • • • •	•••••

Sizes 14 inch and larger are to be used with O. D. pipe of same size.

Cast Iron Floor Flanges

Tapped and Drilled



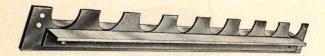
Diam.			Prop. Cro	CE, EACH				
In.	1/4	3/8	1/2 SIZ	E, INCHES——	1	11/4		
21/2	\$.14	\$.14	\$.15	\$.18	Maria a Maria	-/-		
3	*.14	*.14	.15	.18	\$.20	a batter		
31/2		.17	*.17	*.18	.20	\$.23		
4	••••	.20	.20	.21	*.22	*.25		
4½ 5			.26	.28	.28	.30		
			.31	.33	.33	.35		
5½ 6				.42	.42	.42		
61/2				.52	.52	.52		
072	••••					.62		

*Standard diameters.

Diam.				Size. Inches—		
In.	11/2	2	21/2	3	31/2	4
4	\$.28	\$.30				
41/2	*.31	.35				
5	.36	*.45				
51/2	.42	.45	\			
6	.52	.55	*\$.65		TO STATE OF	
61/2	.62	.65	.75	\$.90	DE PER LEGIS DE	
7		.75	.90	*1.00	Table Table	
8		440		1.25	\$1.40	*\$1.50

*Standard diameters.
Galvanized floor flanges furnished at double the above prices.

Grafton Coil Hanger and Spacer Combined For Overhead Coils



	,	P	RICE, EACH-			PRICE, EACH				
		For 1-In.	11/4-In.	1½-In.	No.	1-In.	11/4-In.	11/2-In.		
0		Pipe	Pipe	Pipe	of	Pipe	Pipe	Pipe		
В	Bran-	- 2½-In.	3-In.	3½-In.	Bran-	21/2-In.	3-În.	31/2-In.		
cl	hes	Center	Center	Center	ches	Center	Center	Center		
3		\$.30	\$ 36	\$.45	9	\$.96	\$1.16	\$1.41		
4		.40	.48	.60	10	1.08	1.30	1.58		
5		.50	.60	.75	11	1.20	1.44	1.75		
6		.60	.72	.90	12	1.32	1.58	1.95		
7		.72	.86	1.07	13	1.48	1.74	2.15		
8		.84	1.00	1.24	14	1.64	1.90	2.35		

Sectional Steel Hook Plates

This sectional steel hook plate is stronger, neater and easier to work than east iron.

It will not break and is practically indestructible.

Furnished in long strips; as many hooks as desired can easily be cut off at the ribs shown.

For	No. of	
Pipe	Hocks	Price
Inches	per Strip	per Strip
1	30	\$2.50
11/4	30	3.25
11/2	25	3.75
2	20	4.25

No. 10 Perfection Floor and Ceiling Plates Cold Rolled Steel





	PRICE, EACH			PRICE, EACH			PRICE, EACH		
Size In.	Black	Nickel- Plated	Size In.	Black	Nickel- Plated	Size In.	Black	Nickel- Plated	
1/4 3/8	\$.14	\$.25	11/4	\$.22	\$.35	31/2	\$.80	\$1.00	
3/8	.15	.26	11/2	.25	.38	4	1.00	1.25	
1/2 3/4	.16	.27	2	.30	.45	41/2	1.25	1.50	
3/4	.17	.28	21/2	.50	.65	5	1.50	1.75	
1	.20	.32	3	. 65	.80	6	1.75	2.00	

One-piece Floor Plates



	I	RICE, EAC	H	PRICE, EACH				
Size In.	Plain Steel	N. P. Steel	N. P. Brass	Size In.	Plain Steel	N. P. Steel	N. P. Brass	
3/8-1	\$.07	\$.10	\$.16	31/2	\$.30	\$.42	\$.55	
11/4	.08	.11	.22	4	.40	.50	.65	
11/2	.08	.11	.22	41/2	.50	.60	.75	
2	.10	.14	.30	5	60	.70	.85	
21/2	.20	.30	.37	6	.70	.80	.95	
3	.25	.35	.45					

No. 22 Steel Drop Forged I-Beam Clamps



L to t	½ inches.	
No.	For Pipe Inches	Price Each
100	1/2 to 11/2	\$.25
2	2 " 3	.30
3	3½ " 6	.35
5	7 " 8	.50
,	9 - 12	.70

Adjustable to fit I-beams

Hinge Hanger Rings with Bolts

	No.	Price Each	Size No.	Price Each	Size No.	Price Each
		\$.17	3	\$.29	8	\$.93
	3/4	.17	31/2	.33	9	1.15
00	11/	.19	41/	.35	10	1.45
	11/4	.21	4½ 5	.37	11	1.65
	2	.25	6	.39	12	1.95
	21/2	.27	7	.68		

Adjustable Steel Pipe Hangers Price Size Price Size

in.	Lach	In.	Each	In.	Each
1/2	\$.08	2	\$.14	41/2	\$.30
3/4	.08	2½ 3	.16	5	
1	.09	3	.18	6	
11/4	.10	31/2	.20		
11/2	.12	4	.25		

Extension Bars

•••••••

No.	Width In.	Price per Foot	No.	Width In.	Price per Foot
11	7/8	\$.08	14	11/8	\$.12
12	7/8 7/8	.09	15	11/4	7
12	1	11			8.10.0

Malleable Iron Sockets



).	For Pipe Inches	Price Each	No.	For Pipe Inches	Price Each
	Literios		140.	inches	Lach
	1/8	\$.08	4	1/2	\$.15
	1/4	.10	5	3/4	.20
	3/	19		-	A STATE OF

With Pipe Threads

No. 27 Grabler Flattened End Bolts

			ipe	11116	au		
	7	Chread	Price	7	Thread	Price	
1	No.	In.	Each	No.	In.	Each	
1	1	1/8	\$.08	3	3/8	\$.12	MARCHANIA
2	2	1/4	.10	4	1/2	.16	
			Bolt	Threa	d		- MANAGEMENT
	5	3/8	\$.08	8	9/16	.11	MI SIM MINE A
•	6	7/16	.09	9	5/8	.12	
7	7	1/2	.10	10	3/4	.16	

Pipe Hanger Lag Screws



With Flattened Head

No. 1 2 3	For Pipe, In. 1/2 to 11/2 2 " 3 31/2 " 6	With Bolt Price, Each \$.10 .12 .14	No. 4 5	For Pipe, In. 7 to 8 8 " 12	With Bolt Price, Each \$.20 .25
	Pipe	With Threa	aded End	D.	
No 1 2	Thread, In.	Each \$.10 .12	No. 3	Pipe Thread, In.	Price Each \$.14 .20

Expansion Pipe Hangers

With Sectional Ring

For 8-inch and Smaller Pipe



Prices do not include pipe from lag screw, or ceiling plate.

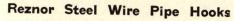
With Ceiling Plate

	Tapped for			Tapped	
Size Inches	I. P. Inches	Price Each	Size Inches	for I. P. Inches	Price Each
3/4	1/8	\$.32	31/2	3/8	\$1.00
11/4	1/8	.33	4 41/2	3/8	1.15
11/2	1/4	.45	5	3/4	1.60 2.00
2 21/2	14	.55	6	3/4	2.50
2½ 3	3/8	.65	8	34	3.00 3.75

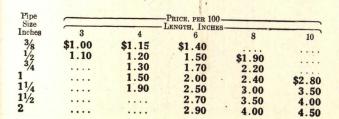
Expansion Pipe Hangers With Solid Ring and Ceiling Plate

Prices do not include nine from coiling plate t

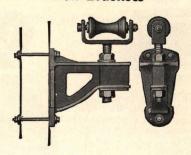
In. I.P.	ed for Complete	PRICE, Rings	Plates	Buttons	9
1/2 3/4	4 \$.17	\$.08	\$.08	\$.06	
3/4	8 .17	.08	.08	.06	
1	8 .18	.12	.08	.06	
11/4	8 .19	.15	.08	.06	
11/2	8 .25	.20	.09	.07	
2	8 .29	.25	.09	.07	
21/2	2 .36	.30	.10	.08	
3	2 .44	.40	.10	.08	
31/2	2 .55	. 50	.10	.08	
4 1	2 .63	. 60	.10	.08	
41/2 1 5 3	2 .90	.80	.10	.08	
5	4 1.12	1.00	.10	.08	
6 3	4 1.35	1.25	.10	.08	
7 3	4 1.80	1.70	.10	.08	
8 3	4 2.25	2.15	.10	.08	



In ordering, always specify the length of hook desired, otherwise the shortest, or standard length, will be shipped.



No. 1907 Universal Adjustable Pipe **Roll Brackets**



				Еасн ——		
Size Pipe	00	WAI	1 No	2	3	4
Inches	6 to 9	9 to 12	LL TO CENTER 12 to 15	R OF PIPE, IN 15 to 18	18 to 21	21 to 24
5	\$17.00	\$18.00	\$18.50	\$19.00	\$19.50	\$22.00
6	17.50	18.50	19.00	19.50	20.00	22.50
7	18.00	19.00	19.50	20.00	20.50	23.00
8	18.00	19.00	19.50	20.00	20.50	23.00
9	18.50	19.50	20.00	20.50	21.00	23.50
10	18.50	19.50	20.00	20.50	21.00	23.50
12	19.00	21.00	21.50	22.00	23.00	25.00
14	20.00	22.00	22.50	23.00	23.50	25.00

Walworth Pipe Rolls and Chairs



Chair and Roll



Roll Only

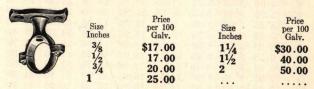
	Size		-PRICE, EACH-	
No.	Pipe Inches	Rolls and Chairs	Roll Only	Roll and Pin
1	$4, 4\frac{1}{2}, 5, 6$	\$2.80	\$.90	\$1.15
2	7, 8, 9, 10	5.00	2.00	2.25
3	12, 14, 15	6.75	3.10	3.40
4	16, 18, 20	8.50	5.10	5.40
5	22, 24	10.25	6.00	6.80

PRICE, PER 100 Black Galv. FRICE, PER 100 Black Galv. 3/8 1/2 \$5.00 11/4 \$6.50 \$10.00 \$12.00 5.00 6.50 14.00 16.00 13/4 7.00 22.00 25.00

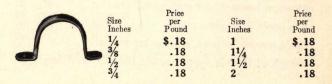
Solid Ring Pipe Hangers

Split Ring Swivel Base Pipe Hangers

9.00



Tinned Pipe Straps



No. K-1350 Blake Hanger Inserts For Concrete Construction





No. K-1350

Sectional View

The Blake Hanger Insert has ample bearing surface, so that it will not pull out after concrete is set.

The sectional view shows that the upper chamber permits nut to be turned and that at the bottom it is channeled to hold the nut firm.

Made in 3 sizes

Price, No. K-1350 for 3/8-Inch Bolteach	\$.22
Price, No. K-1350 for ½-Inch Bolteach	.28
Price, No. K-1350 for 5%-Inch Bolteach	.34

Diamond Malleable Iron Expansion Shields



In ordering specify diameter of screw or bolt to be used and if lag screw shields, speci y whether short standard or long standard is wanted.

Prices do not include lag screw or machine bolt.

Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100	Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100
1/4	11/2	1/2	\$15.00	5/8	31/2	7/8	\$45.00
1/4 5/16	13/4	9/16	18.00	3/4	$3\frac{1}{2}$	11/8	65.00
3/8	23/4	5/8	25.00	7/8	5	13/8	95.00
7/16	23/4	11/16	32.00	1	5	11/2	110.00
1/2	31/2	3/4	38.00				

Square Head Coach and Lag Screws



Adopted September 1, 1923

Price per 100-Manufacturers' Standard List

Length		-		-DIAME	TER, INCHES			
Inches 1/	4 and 5/	16 3/8	7/16	1/2	% and 5/8	3/4	7/8	1
11/2 \$	2.25	\$2.70	\$3.15	\$3.75				
2	2.45	3.00	3.50	4.15	\$6.00			
21/2	2.65	3.30	3.85	4.55	6.50	\$9.20		
3	2.85	3.60	4.20	4.95	7.00	9.90	\$15.00	
31/2	3.05	3.90	4.55	5.35	7.50	10.60	16.00	\$22.00
4	3.25	4.20	4.90	5.75	8.00	11.30	17.00	23.30
41/2	3.45	4.50	5.25	6.15	8.50	12.00	18.00	24.60
5	3.65	4.80	5.60	6.55	9.00	12.70	19.00	25.90
51/2	3.85	5.10	5.95	6 95	9.50	13.40	20.00	27.20
6	4.05	5.40	6.30	7.35	10.00	14.10	21.00	28.50
61/2	5.25	6.70	7.65	8.75	10.50	14.80	22.00	29.80
7	5.45	7.00	8 00	9.15	11.00	15.50	23.00	31.10
71/2	5.65	7.30	8 35	9.55	11.50	16.20	24.00	32.40
8	5.85	7.60	8.70	9.95	12.00	16.90	25 00	33.70
9	6.25	8 20	9.40	10.75	13.00	18.30	27.00	36.30
10	6 65	8.80	10.10	11.55	14.00	19.70	29.00	38.90
11	7.05	9.40	10.80	12 35	15.00	21.10	31.00	41.50
12	7.45	10.00	11.50	13.15	16.00	22.50	33.00	44.10
Add for								
lach In.	.40	.60	.70	.80	1.00	1.40	2.00	2.60

Hexagon heads, 10 per cent extra.

Tee heads 50 per cent extra.

Skein screws, list price, same as lag screws.

Length of threads approximately three-fifths of length of screws.

Machine Bolts





Price, per Hundred-Manufacturers' Standard List

Length			Draw	ETER, INCHES-		
Inches	1/4	5/16	3/8	7/16	1/2	9/16 and 5/8
11/2	\$1.70	\$2.00	\$2.40	\$3.00	\$3.70	\$5.50
2	1.80	2.15	2.60	3.25	4.00	5.90
21/2	1.90	2.30	2.80	3.50	4.30	6.30
3	2.00	2.45	3.00	3.75	4.60	6.70
31/2	2.10	2.60	3.20	4.00	4.90	7.10
4	2.20	2.75	3.40	4.25	5.20	7.50
41/2	2.30	2.90	3.60	4.50	5.50	7.90
5	2.40	3.05	3.80	4.75	5.80	8.30
51/2	2.50	3.20	4.00	5.00	6.10	8.70
6	2.60	3.35	4.20	5.25	6.40	9.10
61/2	3.70	4.50	5.40	6.50	7.70	9.50
7	3.80	4.65	5.60	6.75	8.00	9.90
71/2	3.90	4.80	5.80	7.00	8.30	10.30
8	4.00	4.95	6.00	7.25	8.60	10.70
9	4.20	5.25	6.40	7.75	9.20	11.50
10	4.40	5.55	6.80	8.25	9.80	12.30
11	4.60	5.85	7.20	8.75	10.40	13.10
12	4.80	6.15	7.60	9.25	11.00	13.90
Length Inches	3/	7/	——DIA	METER, INCHE		-1/
	3/4	7/8		1	11/8	11/4
11/2	\$7.70	\$10.		\$15.10	\$22.50	\$30.00
2	8.25	11.		16.00	23.70	31.50
21/2	8.80	11.		16.90	24.90	33.00
3	9.35 9.90	12.		17.80	26.10	34.50
31/2		13.		18.70	27.30	36.00
	10.45 11.00	14. 14.		19.60	28.50	37.50
41/2				20.50	29.70	39.00
5 5½	11.55	15.		21.40	30.90	40.50
6	12.10 12.65	16.		22.30	32.10	42.00
61/2	13.20	16. 17.	50	23.20 24.10	33.30	43.50
7	13.75	18.			34.50	45.00
	14.30	18.		25.00	35.70	46.50
7½ 8	14.85			25.90	36.90	48.00
9	15.95	19. 21.		26.80 28.60	38.10	49.50
10	17.05	22.			40.50	52.50
11	18.15	23.		30.40 32.20	42.90	55.50
12	19.25	25.		34.00	45.30	58.50
14	19.23			It Extras	47.70	61.50
D	'41 TT	Iviach	ine bo	IL EXTRAS		

Special bolts with irregular thread and unusual dimensions of heads or nuts, will be charged extra at the discretion of the manufacturer.

Directions for Ordering Machine Bolts

In ordering machine bolts, specify whether cut or rolled thread is wanted. Hexagon head machine bolts are not made in rolled thread.

Standard Lengths of Threads on Bolts

Size LENGTH BOLTS, INCHES	
In. 1 to 11/4 11/2 to 4 41/4 to 7 71/4 to 12 121/4 to 20	20 to 30
1/4 3/4 7/8 1 11/8	
$\frac{5}{16}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $\frac{11}{8}$	
3/8 3/4 1 1½ 1½	
1/16 34 1 11/4 11/2	
1/2 & 9/16 3/4 1 11/4 11/2 13/4	
3/8 1 11/4 11/2 2 21/4 1 11/2 13/2 9 91/4	017
$\frac{74}{74}$ 1 $\frac{1}{2}$ 1 $\frac{1}{4}$ 2 $\frac{2}{4}$ 11 13 2 9 91 2	21/2
1 11/4 13/4 2 2/4	23/2
11/2 21/4 21/6 3	33/2
$1\frac{1}{4}$ $2\frac{1}{2}$ $2\frac{3}{4}$ $3\frac{1}{4}$	33/4

For 125 Pounds Steam Working Pressure

90° Elbows

All standard weight fittings have plain faces.

Bolt holes will be drilled ½ inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only unless otherwise ordered.

	Diameter	Center	PRICE	E, EACH
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
11/4	$4\frac{1}{2}$	33/4	\$3.00	\$3.60
11/2	5	4	3.00	3.60
2	5 6 7	$4\frac{1}{2}$	3.00	3.60
21/2		5	3.15	3.75
3	71/2	$5\frac{1}{2}$	3.45	4.15
3 3½	81/2	6	4.05	4.90
4	9	61/2	4.50	5.50
41/2	91/4	7	5.50	6.50
5 2	10	71/2	6.25	7.25
6	11	8	7.60	8.90
6 7 8	121/2	81/2	10.50	12.00
8	131/2	9	12.00	13.60
9	15	10	17.00	
10	16	11		19.25
12	19		19.00	21.70
14		12	28.00	31.00
	21	14	41.50	45.25
15	221/4	$14\frac{1}{2}$	47.00	51.50
16	231/2	15	54.50	59.50
18	25	$16\frac{1}{2}$	71.00	77.00
20	$27\frac{1}{2}$	18	90.00	97.00
22	$29\frac{1}{2}$	20	113.00	122.00
24	32	22	140.00	150.00
Larger s	sizes made to	order Price	og upon applia	

Larger sizes made to order. Prices upon application.

45° Elbows

All standard weight fittings have plain faces.

Bolt holes will be drilled ½ inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter	Center	PRICE	EACH—
Size Inches	Flanges Inches	to Face	Faced	Faced and
		Inches	Only	Drilled
11/4	41/2	2	\$3.30	\$3.90
11/2	5	21/4	3.30	3.90
2	5 6 7	$2\frac{1}{2}$	3.30	3.90
21/2	7	$\frac{2^{1/2}}{3}$	3.50	4.10
3	$7\frac{1}{2}$	3	3.80	4.50
31/2	81/2	31/2	4.50	5.35
4	9	4	5.00	6.00
41/2	$9\frac{1}{4}$	4	6.00	7.00
5	10	41/2	6.90	7.90
5 6 7 8	11	5	8.35	9.65
7	$12\frac{1}{2}$	$5\frac{1}{2}$	11.00	12.50
8	$13\frac{1}{2}$	$5\frac{1}{2}$	12.60	14.20
9	15	6	17.75	20.00
10	16	$6\frac{1}{2}$	20.00	22.70
12	19	71/2	29.50	32.50
14	21	71/2	41.50	45.25
15	$22\frac{1}{4}$	8	47.00	51.50
16	$23\frac{1}{2}$	8	54.50	59.50
18	25	81/2	71.00	77.00
20	$27\frac{1}{2}$	91/2	90.00	97.00
22	$29\frac{1}{2}$	10	113.00	122.00
24	32	11	140.00	150.00
т				20.00

Larger sizes made to order. Prices upon application.

Standard Cast Iron Flanged Fittings

125 Pounds Steam Working Pressure

Reducing Taper Elbows



Standard reducing elbows carry the same dimensions, center to face, as regular elbows of largest straight size.

All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8-inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Flanged fittings will be furnished faced only, unless otherwise specified.

			Wase specif	icu.	
	a.	Diameter	Center	PRICE	, EACH——
1	Size Inches	Flanges Inches	to Face Inches	Faced	Faced and
	/2x 2			Only	Drilled
3		$9 \times 6 \\ 7\frac{1}{2} \times 5$	5	\$6.30	\$6.90
3	x 1½ x 2	7½x 6	5½ 5½	6.90	7.60
3		7½x 6	51/2	6.90	7.60
21	$\begin{array}{c} x & 2\frac{1}{2} \\ 2x & 2 \end{array}$	7½x 7	51/2	6.90	7.60
21		8½x 6	6	8.10	8.95
21	/2x 21/2	8½x 7	6	8.10	8.95
3	/2X 3	$8\frac{1}{2}$ x $7\frac{1}{2}$	6	8.10	8.95
4	x 2	9 x 6	61/2	9.00	10.00
4	x 21/2	9 x 7	61/2	9.00	10.00
4	x 3	9 x 7½	61/2	9.00	10.00
	x 3½	$9 \times 8\frac{1}{2}$	$6\frac{1}{2}$	9.00	10.00
41	/2X 21/2	9½x 7	7	11.00	12.00
41	/ ₂ x 31/ ₂ / ₂ x 4	$9\frac{1}{4}$ x $8\frac{1}{2}$ $9\frac{1}{4}$ x 9	7	11.00	12.00
-	2x 4	$9\frac{1}{4} \times 9$	7	11.00	12.00
5	x 21/2	10 x 7	71/2	12.50	13.50
5	x 3	$\frac{10}{10} \times 7\frac{1}{2}$	71/2	12.50	13.50
6	x 4	10 x 9	71/2	12.50	13.50
6	x 2½ x 3	11 x 7	8	15.25	16.55
6	x 3	11 x 7½	8	15.25	16.55
6	x 31/2	$\frac{11}{11} \times \frac{81}{2}$	8	15.25	16.55
6	x 4	11 x 9	8	15.25	16.55
7	x 5	11 x10	8	15.25	16.55
7	x 5 x 6	12½x10	81/2	21.00	22.50
8		12½x11	81/2	21.00	22.50
8		13½x 7½	9	24.00	25.60
8		$13\frac{1}{2}$ x $8\frac{1}{2}$ $13\frac{1}{2}$ x 9	9	24.00	25.60
8	x 4 x 5	15½X 9	9	24.00	25.60
8	•	13½x10 13½x11	9	24.00	25.60
8	The state of the s	191/v191/	9	24.00	25.60
9		13½x12½	9	24.00	25.60
9		15 x11	10	34.00	36.25
10		15 x13½ 16 x 9¼	10	34.00	36.25
10	x 4½ x 5	16 x 9½ 16 x10	11 11	38.00	40.70
10	-	16 x10	11	38.00	40.70
10	x 6 x 7	16 x111/2	11	38.00	40.70
10	x 8	$\frac{16}{16} \times \frac{112}{2}$	11	38.00	40.70
10	x 9	16 x15/2	11	38.00	40.70
12	x 6	19 x11	12	38.00	40.70
12	x 7	$\frac{13}{19} \times \frac{11}{12} \frac{1}{2}$	12	56.00	59.00
12	x 8	$\frac{13}{19} \times \frac{13\frac{1}{2}}{2}$	12	56.00	59.00
12	x10	19 x16	12	56.00	59.00
14	x10	21 x16	14	56.00	59.00
14	x12	21 x19	14	70.00	73.75
15	x10	$\frac{21}{22}\frac{1}{4}x16$	141/2	70.00	73.75
15	x12	$\frac{22}{4}$ x19	141/2	80.00	84.50
16	x12	23½x19	15	80.00	84.50
16	x14	$\frac{23}{2}$ x21	15	90.00	95.00
16	x15	$23\frac{1}{2}$ x $22\frac{1}{4}$	15	90.00	95.00
18	x15	$\frac{25}{25}$ $\frac{25}{221}$	161/2	90.00	95.00
18	x16	25 x23½	$16\frac{10}{2}$ $16\frac{1}{2}$	105.00	111.00
20	x14	27 ½x21	18	105.00	111.00
20	x16	27½x23½	18	120.00	127.00
20	x18	$\frac{27}{2} \times 25$	18	120.00	127.00
-0	AIU	21/2120	10	120.00	127.00

Elbows not listed above will be made to order at a special price.

125 Pounds Steam Working Pressure

Long Radius Elbows



All standard weight fittings have plain faces. Bolt holes will be drilled ½-inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of

Furnished faced only unless otherwise ordered.

	Diam.	Center		PRICE	EACH—
Size	Flanges	to Face	Radius	Faced	Faced and
Inches	Inches	Inches	Inches	Only	Drilled
2	6	61/2	51/4	\$5.00	\$5.90
21/2	7	. 7	55/8	5.25	6.15
3	71/2	73/4	61/4	5.75	6.85
31/2	81/2	81/2	67%	6.75	8.00
4	9	9	73%	7.50	9.00
41/2	91/4	91/2	73/	9.25	10.75
5	10	101/4	81/2	10.50	12.00
6	11	111/2	95/8	12.65	14.60
7	121/2	1234	107/8	17.50	19.75
7 8 9	$13\frac{1}{2}$	14	12	20.00	22.40
	15	151/4	13	28.50	31.85
10	16	161/2	141/8	31.50	35.50
12	19	19	161/2	46.50	51.00
14	21	211/2	187/8	69.00	74.50
15	221/4	223/4	20	78.00	84.75
16	$23\frac{1}{2}$	24	211/4	91.00	98.50
18	25	261/2	325/8	118.00	127.00
20	271/2	29	26	150.00	160.00
22	$29\frac{1}{2}$	311/2	283/4	190.00	203.00
24	32	34	303/4	235.00	250.00
-					

Larger sizes made to order. Elbows of different dimensions from above furnished on order at special prices.

Round Base Elbows

The measurement across the flat edges of square base flange is the same as the diameter of the round base flange.

All standard weight fittings have plain faces. Bolt holes will be drilled 1/8-inch larger than diameter of bolts.

Size of all fittings scheduled in-

dicates inside diameter of ports.

Furnished faced only, except
base, as quoted unless otherwise ordered.



	D: 1	~ .	Diam.		-PRICE, EAC	
Q:	Diameter	Center	Base		Faced	For Facing
Size Inches	*Flanges	to Face	Flange	Faced	and	and Drilling
	Inches	Inches	Inches	Only	Drilled	Base Flange
4	9	$6\frac{1}{2}$	6	\$9.00	\$10.00	\$3.00
41/2	91/4	7	6	11.00	12.00	3.00
5	10	71/2	7	12.50	13.50	3.50
6	11	8	7	15.25	16.55	3.50
7	$12\frac{1}{2}$	81/2	7	21.00	22.50	3.50
8	131/2	9	9	24.00	25.60	5.00
9	15	10	9	34.00	36.25	5.00
10	16	11	9	38.00	40.70	5.00
12	19	12	11	56.00	59.00	7.50
14	21	14	11	70.00	73.75	7.50
15	$22\frac{1}{4}$	141/2	11	80.00	84.50	7.50
16	$23\frac{1}{2}$	15	11	90.00	95.00	7.50
18	25	161/2	131/2	105.00	111.00	12.00
20	271/2	18	$13\frac{1}{2}$	120.00	127.00	12.00
22	$29\frac{1}{2}$	20	131/2	150.00	159.00	12.00
24	32	22	$13\frac{1}{2}$	190.00	200.00	12.00
No man of the	All the second of the second of	The same of the sa	The second of the second			

*Port openings only, not base flange.

Base Tees

Base tees made on special order. Prices upon application.

Standard Cast Iron Flanged Fittings

For 125 Pounds Steam Working Pressure

Straight Side Outlet Elbows



All standard weight fittings have plain faces. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

a.	Diameter	Center	PRICE, EACH—		
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled	
4	9	$6\frac{1}{2}$	\$26.50	\$28.00	
5	10	$7\frac{1}{2}$	28.50	30.00	
6	11	8	33.00	35.00	
7	$12\frac{1}{2}$	81/2	40.25	42.50	
8	$13\frac{1}{2}$	9	47.50	50.00	
10	16	11	76.00	80.0u	
12	19	12	100.50	105.00	
14	21	14	129.50	135.00	
16	$23\frac{1}{2}$	15	152.50	160.00	

Larger sizes made to order. Prices upon application.

Reducing Side Outlet Elbows



The dimensions of reduced flanged fittings are always regulated by the reductions of the outlet or branch.

Side outlet elbows, whether straight or reducing sizes, carry same dimensions center to face and face to face as regular tees having same reductions.

Side outlet elbows, whether straight or reducing, are furnished with all openings on intersecting center lines.

Bolt holes will not be spot faced unless so ordered, for which an extra charge will be made.

All standard weight fittings have plain faces. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter Center		PRICE, EACH		
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled	
5	9 10	$\frac{6\frac{1}{2}}{7\frac{1}{2}}$	\$29.50 31.50	\$31.00 33.00	
6	$\frac{11}{12\frac{1}{2}}$	8 81/2	36.00 44.75	38.00 47.00	
8	$\frac{131/2}{16}$	9	52.50	55.00	
12	19	$\begin{array}{c} 11 \\ 12 \end{array}$	84.00 110.50	88.00 115.00	
14 16	$\frac{21}{23\frac{1}{2}}$	14 15	144.50 167.50	150.00 175.00	
Longo	n airea made d	a suls. D.			

For 125 Pounds Steam Working Pressure

Straight Double Branch Elbows



All standard weight fittings have plain faces. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.
Size of all fittings scheduled indicates inside diameter of

ports.

Furnished faced only, unless otherwise ordered.

Size		Diameter	Center	PRICE.	EACH—
Inches	*	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled
4 5		9	$6\frac{1}{2}$	\$28.50	\$30.00
6		10	$7\frac{1}{2}$	36.00	37.50
7		11	8	38.00	40.00
8		$\frac{12\frac{1}{2}}{121}$	81/2	42.75	45.00
10		$\frac{13\frac{1}{2}}{16}$	9	47.50	50.00
12		19	11	66.00	70.00
14		$\frac{19}{21}$	12	90.50	95.00
16		231/2	14	119.50	125.00
-	20001	sizes made	15	142.50	150.00

Larger sizes made to order. Prices upon application.

Reducing Double Branch Elbows Reducing on the Branches Same Size



The dimensions of reduced flanged fittings are always regulated by the reductions of the outlet or branch.

Double branch elbows, whether straight or reducing, carry same dimensions center to face and face to face as regular straight size elbows and tees.

Prices given for reducing elbows are for fittings reducing on the branches same size. If fittings are wanted with two branches of two different sizes, or reducing on the inlet, they will be furnished on special order at a special price.

Bolt holes will not be spot faced unless so ordered, for which an extra charge will be made.

All standard weight fittings have plain faces. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter	Center	PRICE.	Each—
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled
4	9	61/2	\$31.50	\$33.00
5	10	$7\frac{1}{2}$	39.50	41.00
6	11	8	42.00	44.00
7	$12\frac{1}{2}$	81/2	47.75	50.00
8	$13\frac{1}{2}$	9	52.50	55.00
10	16	11	73.50	77.50
12	19	12	100.50	105.00
14	21	14	132.50	138.00
16	$23\frac{1}{2}$	15	157.50	
16	$23\frac{1}{2}$	15	157.50	165.00

Larger sizes made to order. Prices upon application,

Standard Cast Iron Flanged Fittings For 125 Pounds Steam Working Pressure







All reducing tees, 16 inches and smaller, take the same center to face dimensions as straight size tees of larger port. All tees reducing on the run only take the same dimensions center to face as the largest straight size. Tees, sizes 18 inches and larger, and reducing on the outlet, are made in two lengths, depending on the size of outlet.

Bullheads, or tees having outlet larger than the run, will be the same length center to face of all openings as a tee with all openings of the size of the outlet.

All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8 inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of

Furnished faced only, unless otherwise ordered.

Diameter

Size

Strai	ght	Tees
Cen		

Inches	inches	Inches	Only	Drilled
11/ ₄ 11/ ₂	41/2	33/4	\$4.35	\$5.25
11/2	5	4	4.35	5.25
21/2	5 6 7 7 ¹ / ₂ 8 ¹ / ₂	41/2	4.35	5.25
21/2	7	5 5 ¹ / ₂ 6	4.55	5.45 6.10 7.10
31/2	71/2	51/2	5.00	6.10
31/2	81/2	6	5.85	7.10
4 41/2	9 9½	61/2	6.50	8.00
41/2	91/4	7	8.00	9.50
5 6 7 8	10	71/6	9.10	10.60
6	11	8	11.00	12.95
7	$\frac{11}{12\frac{1}{2}}$	8 81/2	15.25	17.50
8	$13\frac{1}{2}$	9	17.40	19.80
9	15	10	24.65	28.00
10	16	11	27.50	31.50
12	19	12	40.50	45.00
14	21	14 14½ 15 16½	60.00	65.50
15	221/4	141/6	68.00	74.75
16	231/2	15	79.00	86.50
18	25	161/	103.00	112.00
20	$\frac{271}{2}$ $\frac{291}{2}$	18	130.00	140.00
22	2912	20	164.00	177 00
24	32	22	203.00	177.00 218.00
	02			218.00
10.75		Reducing 7	Tees	
11/2	5 6	4	\$5.00	\$5.90
2	6	41/2	5.00	5.90
21/2	7	5	5.25	6.15
31/2	$ \begin{array}{c} 7\frac{1}{2} \\ 8\frac{1}{2} \end{array} $	5 5½	5.75	6.85
31/2	81/2	6	6.75	8.00
4	9	$6\frac{1}{2}$	7.50	9.00
41/2	91/4	7	9.25	10.75
5	10	6 6 1/2 7 7 1/2	10.50	10.75 12.00
6	11	8	12.65	14.60
7 8	$12\frac{1}{2}$ $13\frac{1}{2}$	81/2	17.50	19.75
8	$13\frac{1}{2}$	9	20.00	22.40
9	15 16	10 11	28.50	31.85
10	16	11	31.50	35.50
12	19	12	46.50	51.00
14	21	14	69.00	74.50
15	$22\frac{1}{4}$	141/2	78.00	84.75
16	231/2	15	91.00	98.50
18	25 27½	$14\frac{1}{2}$ 15 $16\frac{1}{2}$	118.00	127.00
20	271/2	18	150.00	160.00
22	$29\frac{1}{2}$	20	189.00	202.00
24	32	22	233.00	248.00

125 Pounds Steam Working Pressure



Straight Single Sweep Tees

All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8 inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter	Center	r ——Price, Each—	
Size	Flanges	to Face	Faced	Fared and
Inches	Inches	Inches	Only	Drilled
2	6	41/2	\$5.00	\$5.90
21/2	7	5	5.25	6.15
3	71/2	51/2	5.75	6.85
31/2	81/2	6	6.75	8.00
4	9	61/2	7.50	9.00
41/2	91/4	7	9.25	10.75
4 41/ ₂ 5 6	10	7½ 8	10.50	12.00
6	11	8	12.65	14.60
7	121/2	81/2	17.50	19.75
7 8 9	131/2	9	20.00	22.40
9	15	10	28.50	31.85
10	16	11	31.50	35.50
12	19	12	46.50	51.00
14	21	14	69.00	74.50
15	221/4	141/2	78.00	84.75
16	231/2	15	91.00	98.50
18	25	161/2	118.00	127.00
20	271/2	18	150.00	160.00
22	291/2	20	189.00	202.00
24	32	22	233.00	248.00
Larger	sizes made t	o order.	Prices upon applic	

Reducing Single Sweep Tees Reducing in Run or Branch

All reducing tees, 16 inches and smaller, take same center to face dimensions as straight size tees of largest port. All tees reducing on run only take same dimensions center to face as largest straight size. Tees, sizes 18 inches and larger, and reducing on the outlet, are made in two lengths, depending on size of reduced outlet.

Reducing single sweep tees made to order only. Single sweep tees with side openings larger than run, not made.

All standard weight fittings have plain faces.

Bolt holes are drilled 1/8 inch larger in diameter than diameters of bolts.

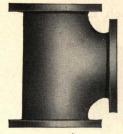
Sizes of all fittings scheduled indicate the inside diameters Furnished faced only, unless otherwise ordered

or ports.	rurmsneu	raced only,	umess otherwi	se ordered.
AND SECTION	Diameter	Center	PRICE	E, EACH——
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
21/2	7	5	\$6.00	\$6.90
3	71/2	$5\frac{1}{2}$	6.60	7.70
31/2	81/2	6	7.75	9.00
4	9	61/2	8.65	10.15
41/2	91/4	7	10,60	12.10
5	10	71/2	12.00	13.50
6	11	8	14.50	16.45
7	121/2	81/2	20.00	22.25
8	131/2	9	23.00	25.40
9	15	10	32.75	36.10
10	16	11	36.00	40.00
12	19	12	53.50	58.00
14	21	14	79.00	84.50
15	221/4	141/2	90.00	96.75
16	231/2	15	105.00	112.50
18	25	161/2	135.00	144.00
20	271/2	18	173.00	183.00
22	$29\frac{1}{2}$	20	217.00	230.00
24	32	22	268.00	283.00
A STATE OF THE STA		1 7		

Larger sizes made to order. Prices upon application.

Standard Cast Iron Flanged Fittings

For 125 Pounds Steam Working Pressure



Straight Double Sweep Tees

All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8 inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only unless otherwise ordered.

The state of	Diameter	Center	PRICE	E, EACH——
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
11/4	41/2	33/4	\$5.00	\$5.90
11/2	5	4	5.00	5.90
2	6	41/2	5.00	5.90
21/2	7	5	5.25	6.15
2 ¹ / ₂ 3	71/2	51/2	5.75	6.85
31/2	81/2	6	6.75	8.00
4	9 2	61/2	7.50	9.00
41/2	91/4	7	9.25	10.75
5/2	10			
5 6 7 8		71/2	10.50	12.00
0	11	8	12.65	14.60
1	121/2	81/2	17.50	19.75
8	131/2	9	20.00	22.40
9	15	10	28.50	31.85
10	16	11	31.50	35.50
12	19	12	46.50	51.00
14	21	14	69.00	74.50
15	221/4	141/2	78.00	84.75
16	231/2	15	91.00	98.50
18	25	161/2		
20			118.00	127.00
	271/2	18	150.00	160.00
22	291/2	20	189.00	202.00
24_	32	22	233.00	248.00
Large	r sizes made to	order. Pric	es upon applica	tion

made to order. Prices upon application.

Reducing Double Sweep Tees

Reducing in Branch Only

All reducing tees 16 inches and smaller reducing on outlet, take same center to face dimensions as straight size tees of largest port.
Tees, sizes 18 inches and larger

reducing on outlet, are made in two lengths, depending on size of outlet.

Double sweep tees not made reducing on run.

All standard weight fittings have plain faces.

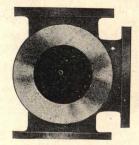
Bolt holes are drilled 1/8 inch larger in diameter than diameter of bolts. Sizes of all fittings scheduled indicate the inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter	Center	PRICE,	EACH —
Size	Flange	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
2	6	41/2	\$5.75	\$6.65
21/2	7	5	6.00	6.90
3	71/2	51/2	6.60	7.70
31/2	81/2	6	7.75	9.00
4	9 -	$6\frac{1}{2}$	8.65	10.15
41/2	91/4	7	10.60	12.10
5	10	71/2	12.00	13.50
6	11	8	14.50	16.45
4½ 5 6 7	121/2	81/2	20.00	22.25
8	131/2	9 2	23.00	25.40
8	15	10	32.75	36.10
10	16	11	36.00	40.00
12	19	12	53.50	58.00
14	21	14	79.00	84.50
15	221/4	141/2	90.00	96.75
16	231/2	15	105.00	112.50
18	25	161/2	135.00	144.00
20	271/2	18	173.00	183.00
22	291/2	20	217.00	230.00
24	32	22	268.00	283.00
	er sizes made to		es upon applicat	

For 125 Pounds Steam Working Pressure

Straight Side Outlet or Four Way Tees



All standard weight fittings have plain faces. Bolt holes drilled $\frac{1}{16}$ inch larger in diameter than diameter of bolts.

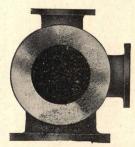
Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

a.	Diameter	Center	PRICE.	EACH—
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled
4	9	$6\frac{1}{2}$	\$31.00	\$33.00
5	10	$7\frac{1}{2}$	35.00	37.00
6	11	8	42.25	45.00
7	$12\frac{1}{2}$	81/2	49.50	52.50
8	131/2	9	56.75	60.00
10	16	11	84.50	90.00
12	19	12	114.00	120.00
14	21	14	142.50	150.00
16	$23\frac{1}{2}$	15	170.00	180.00

Larger sizes made to order. Prices upon application.

Reducing Side Outlet or Four Way Tees



The dimensions of reduced flanged fittings are always regulated by the reductions of the outlet or branch.

Fittings reducing on the run only, the long body pattern will always be used.

Size outlet tees, whether straight or reducing, carry same dimensions center to face and face to face as regular tees having same reductions.

Bolt holes will not be spot faced unless so ordered, for which an extra charge will be made.

All standard weight fittings have plain faces. Bolt holes drilled $\frac{1}{8}$ inch larger in diameter than diameter of bolts.

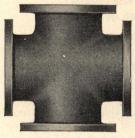
Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

CI.	Diameter	Center	PRICE	E. EACH
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled
4	9	$6\frac{1}{2}$	\$34.00	\$36.00
5	10	$7\frac{1}{2}$	39.00	41.00
6	11	8	47.25	50.00
7	$12\frac{1}{2}$	81/2	55.00	58.00
8	$13\frac{1}{2}$	9	62.75	66.00
10	16	11	94.50	100.00
12	19	12	126.00	132.00
14	21	14	157.00	165.00
16	$23\frac{1}{2}$	15	190.00	200.00

Larger sizes made to order. Prices upon application.

Standard Cast Iron Flanged Fittings For 125 Pounds Steam Working Pressure



Straight Crosses

All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8 inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only unless otherwise ordered.

THE PARTY OF	Diameter	Center	PRICE	, EACH
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
11/4	41/2	33/4	\$6.75	\$7.95
11/2	5	4	6.75	7.95
2	5 6 7	41/2	6.75	7.95
21/2	7	5	6.95	8.15
3	71/2	51/2	7.65	9.05
31/2	81/2	6	9.00	10.70
4	9	$6\frac{1}{2}$	10.00	12.00
41/2	91/4	7	12.00	14.00
5	10	71/2	13.75	15.75
5 6 7 8 9	11	8	16.75	19.25
7	121/2	81/2	23.00	26.00
8	131/2	9 2	26.50	29.75
9	15	10	37.50	
10	16	11	42.00	42.00
12	19	12		47.50
14	21	14	61.50	67.50
15			91.00	98.50
	221/4	141/2	103.00	112.00
16	231/2	15	120.00	130.00
18	25	$16\frac{1}{2}$	157.00	169.00
20	$27\frac{1}{2}$	18	198.00	212.00
22	$29\frac{1}{2}$	20	248.00	266.00
24	32	22	310.00	330.00
arger	sizes made to	order Price	gunon applicat	ion

Larger sizes made to order. Prices upon application.

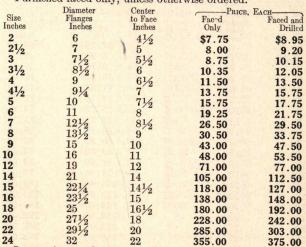
Reducing Crosses

All reducing crosses, 16 inches and smaller, take same center to face dimensions as straight size crosses of largest port. All crosses reducing on run only take same dimensions center to face, as largest straight size. Sizes 18 inches and larger, reducing on the outlet, are made in two lengths depending on size of outlet.

All standard weight fittings have plain faces. Bolt holes are drilled \(\frac{1}{8} \) inch larger in diameter of holts. Size

eter than diameter of bolts. Sizes of all fittings scheduled indicate inside diameter of ports.

Furnished faced only, unless otherwise ordered.



Standard Cast Iron Flanged Fittings 125 Pounds Steam Working Pressure Straight Y Branches or Laterals



All standard weight fittings have plain faces.

Bolt holes will be drilled 1/8-inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter	Center to Face	PRICE	, EACH
Size	Flanges	and Face to	Faced	Faced and
Inches	Inches	Face, Inches	Only	Drilled
2	6		\$6.75	\$7.95
21/2	7		6.95	8.15
3	71/2		7.65	9.05
2½ 3 3½	81/2		9.00	10.70
4'2	9		10.00	12.00
41/6	91/4	ند	12.00	14.00
4 4 ¹ / ₂ 5 6 7 8 9	10	Furnished on request	13.75	15.75
6	11	2	16.75	19.25
7	121/2	9	23.00	26.00
		1	26.50	29.75
0	131/2	Ö		
	15	7	37.50	42.00
10	16	he	42.00	47.50
12	19	ris n	61.50	67.50
14	21		91.00	98.50
15	$22\frac{1}{4}$	Fu	103.00	112.00
16	231/2		120.00	130.00
18	25		157.00	169.00
20	271/2		198.00	212.00
22	291/2		248.00	266.00
24	32		310.00	330.00
		order. Prices u		

Reducing Y Branches or Laterals

Reducing in Run or Branch All Y Branches or laterals reduc-

ing on run only have same dimensions, face to face, as straight size laterals. All reducing Y branches or laterals, 16 inches and smaller, have same dimensions as same sizes in straight size fittings. Sizes 18 inches and up, reducing on branch, are made in long or short body pattern, depending on size of branch.

All standard weight fittings have

plain faces. Bolt holes are drilled \(\frac{1}{8}\)-inch larger in diameter than diameter of bolts. Sizes of all fittings scheduled indicate inside diameter of ports.

Furnis	shed faced onl	y unless othe	rwise ordered.	
	Diameter	Center to Face	PRICE	, EACH—
Size	Flanges	and Face to	Faced	Faced and
Inches	Inches	Face, Inches	Only	Drilled
2	6		\$7.75	\$8.95
21/2	7		8.00	9.20
3	71/2		8.75	10.15
31/2	81/2		10.35	12.05
4	9		11.50	13.50
41/2	91/4	ئب	13.75	15.75
5	10	<u>89</u>	15.75	17.75
6	11	nb	19.25	21.75
7	121/2	re	26.50	29.50
8	131/2	ų į	30.50	33.75
2½ 3 3½ 4 4½ 5 6 7 8	15	70	43.00	47.50
10	16	Furnished on request	48.00	53.50
12	19	isi	71.00	77.00
14	21	E	105.00	112.00
15	221/4	Fu	118.00	127.00
16	$23\frac{1}{2}$		138.00	148.00
18	25		180.00	192.00
20	271/2		228.00	242.00
22	$29\frac{1}{2}$		285.00	303.00
24	3		355.00	375.00
Larger	sizes made t	to order. Price	ces upon applica	

Standard Cast Iron Flanged Fittings

125 Pounds Steam Working Pressure

Standard Taper Reducers



All standard weight fittings have plain faces

Bolt holes will be drilled 1/8 inch larger in diameter than bolt diameter.

Sizes of all fittings scheduled indicates inside diameter of ports. The face to face dimensions standard or eccentric will be the same.

Furnished faced only unless otherwise ordered.

		D:	Free	D	7
S	ize	Diameter Flanges	Face to Face	Faced PRICE, I	Faced and
In	ches	Inches	Inches	Only	Drilled
3	x 2	7½x 6	6	\$6.90	\$7.60
	2x 2	$\frac{1}{2}$ 8 $\frac{1}{2}$ x 7	61/2	8.10	8.95
4	x 2	9 x 6	7	9.00	10.00
4	-	/2 9 x 7	7	9.00	10.00
4	x 2 x 3		7		
			0	9.00	10.00
5	x 2	10 x 6	0	12.50	13.50
5	x 2	/2 10 x 7	8 8	12.50	13.50
5	x 3	10 x 7½		12.50	13.50
5	x 4	10 x 9	8	12 50	13.50
6	x 3	$11 \times 7\frac{1}{2}$	9	15.25	16.55
6	x 3		9	15.25	16.55
6	x 4	11 x 9	9	15.25	16.55
6	x 5	11 x10	9	15.25	16.55
7	x 3	$12\frac{1}{2}$ x $7\frac{1}{2}$	10	21.00	22.50
7	x 4	12½x 9	10	21.00	22.50
7	x 5	$12\frac{1}{2}$ x10	10	21.00	22.50
7	x 6	$12\frac{1}{2}x10$ $12\frac{1}{2}x11$	10	21.00	22.50
8	x 3	13½x 7½	11	24.00	25.60
8	x 4	13½x 9	11	24.00	25.60
8	x 5	$13\frac{1}{2} \times 10$	11	24.00	25.60
8	x 6	$13\frac{1}{2}$ x11	11	24.00	25.60
10	x 4	16 x 9	12	38.00	40.70
10	x 4	16 x10	12	38.00	40.70
10	x 6	16 x11	12	38.00	40.70
10	x 8	16 x13½	12	38.00	40.70
12	x 5	19 x10 2	14	56.00	59.00
12	x 6	19 x11	14	56.00	59.00
12	x 8	19 x13½	14	56.00	59.90
12	x10	19 x16	14	56.00	59.00
14	x 6	21 x11	16	70.00	73.75
14	x 8	21 x13½	16	70.00	73.75
14	x10	21 x16	16	70.00	73.75
14	x12	21 x19	16	70.00	73.75
15	x 8	$22\frac{1}{4}$ x13\frac{1}{2}	17	80.00	84.50
15	x10	22½x16	17	80.00	84.50
15	x12	$22\frac{1}{4}x19$	17	80.00	84.50
15	x14	991/201	17	80.00	84.50
16	x 8	$23\frac{1}{2}x13\frac{1}{2}$	18	90.00	95.00
16	x10	23½x16	18	90.00	95.00
16	x12	23½x19	18	90.00	95.00
16	x14	$\frac{23}{2}$ x21	18	90.00	95.00
18	x10	25 x16	19	105.00	
18	x12	25 x19	19		111.00
18	x14	25 x19 25 x21	19	105.00 105.00	111.00
18	x16	$\frac{25}{25} \times \frac{231}{2}$	19	105.00	111.00
20	x12	$\frac{25}{271/2}$ x19	20	120.00	111.00
20	x14	27½x21	20	120.00	127.00
20	x16	27½x23½	20	120.00	127.00
20	x18	$\frac{27}{2}$ x25	20		127.00
22	x14	$\frac{21}{29}\frac{1}{2}x21$	22	120.00	127.00
22	x14	2072XZI 2017x2217	22	150.00	159.00
22	x18	$29\frac{1}{2}x23\frac{1}{2}$ $29\frac{1}{2}x25$		150.00	159.00
22	x20	29½x25 29½x27½	22 22	150.00	159.00
24		29/2XZ1/2		150.00	159.00
	x16	$\frac{32}{29}$ $\times 23\frac{1}{2}$	24	190.00	200.00
24	x18	32 x25	24	190.00	200.00
24	x20	$\frac{32}{20}$ $\times 27\frac{1}{2}$	24	190.00	200.00
24	x22	$32 \times 29\frac{1}{2}$	24	190.00	200.00
1	aper	reducers of any other	aimen	sions special on	order.

Eccentric Taper Reducers

Eccentric taper reducers furnished on special order. Prices upon application.

Standard Companion Flanges

125 Pounds Steam Working Pressure





Back View, Showing Hub

Smooth Face



Cast	Iron	Flanges

Size Inches Parcs, Each Faced and Size Inches Paced Faced and Inches Inches Paced Faced and Inches Inches Paced Faced and Paced Paced				rianges	Oust IIO	42	
Taced and Size Faced and Inches Only Drilled Inches Only Drilled Inches Only Drilled Inches Only O		PICE FACE	Para				a.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	hand		Faced	Size			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					Drilled	Only	Inches
14x 4½ .60 .85 9x15 3.85 4.65 1½x 5 .65 .90 10x16 4.50 5.50				8x131/6	\$.80	\$.55	
1½x 5 .65 .90 10x16 4.50 5.50					.85	.60	11/4x 41/2
2 × 6 75 1 00 10 10 3.50 5.50	65						
	50	50 5.	4.50	10x16			
			6.50	12x19	1.00		
2/2X / .85 1.10 14x21 9.00 10.25	200			14x21	1.10	.85	
3 x 716 05 1 25 15 2214					1 25	.95	3 x 7½
31/y 81/ 1 20 1 FF 10.22/4 11.50 13.20	20						
1 10,20/2 13.30 15.30	30	50 15.	13.50	16x23½			
1.35 1.80 18x25 16 00 19 00			16 00	18x25	1.80	1.35	
41/0Y 41/4 1 4E 1 00 00 0=1/4					1.90	1.45	$4\frac{1}{2}$ x $9\frac{1}{4}$
5 v10 1 60 2 of 2021/2 19.00 21.50							
220 220 25.00	00	0 25.6	22.00	22x29½			_
0 XII 2.00 2.50 24x32 27 00 20 50		and the second second		24x32	2.50	2.00	
$7 \times 12\frac{1}{2}$ 2.65 3.25	30	30.	27.00	-1102		2.65	7 x12½
Mollophia Ivan El						_	-/2

Malleable Iron Flanges

Double list of cast iron flanges.

		Semi-steel	Flanges		
1 x 4	\$.70	\$1.00	8x13½	\$3.90	\$4.75
11/4x 41/2	.75	1.05	9x15	4.80	5.80
1½x 5	.80	1.10	10x16	5.65	The second secon
2 x 6	.95	1.25	12x19		6.85
$2\frac{1}{2}x$ 7	1.05	1.35	14x21	8.15	9.55
3 x 7½	1.20	1.55	15x22½	11.25	13.00
3½x 8½	1.50	1.95	16-921	14.50	16.50
4 x 9	1.70	2.25	16x23½	17.00	19.00
4½x 9¼	1.80	2.35	18x25	20.00	22.50
5 x10	2.00	2.55	20x27½	24.00	27.00
6 x11	2.50		22x29½	27.50	31.00
$7 \times 12\frac{1}{2}$	3.30	3.10	24x32	34.00	38.00
· X1272	3.30	4.05			
1 - 1		Cast Steel	Flanges		
1 x 4	\$5.00	\$6.50	$8x13\frac{1}{2}$	\$27.00	\$32.00
11/4x 41/2	5.40	7.00	9x15	29.50	35.50
$1\frac{1}{2}$ x 5	5.90	7.50	10x16	34.50	40.50
2 x 6	6.90	8.50	12x19	46.00	53.00
$2\frac{1}{2}x$ 7	7.30	9.50	14x21	55.50	63.00
3 x 7½	8.70	11.00	15x221/4	64.00	74.00
$3\frac{1}{2}$ x $8\frac{1}{2}$	12.10	14.50	16x23½	78.00	89.00
4 x 9	14.80	18.50	18x25	98.00	
$4\frac{1}{2}$ x $9\frac{1}{4}$	15.80	19.50	20x27½	117.00	110.00
5 x10	16.80	20.50	22x29½		130.00
6 x11	20.40	24.00	24x32	140.00	155.00
$7 \text{ x} 12\frac{1}{2}$	24.70	29.50		165.00	180.00
T- 1	1	_0.00			

Furnished with bolt holes spot faced, when ordered faced and drilled, at prices given for faced and drilled.

brices given for faced and drifted.								
Forged Steel Flanges								
2 x 6	\$10.40	\$11.00	6x11	\$25.40	\$27.00			
$2\frac{1}{2}x$ 7	11.80	13.00	7x12½	27.20	32.00			
$3 \times 7\frac{1}{2}$	13.70	15.00	8x13½	32.00	35.00			
$3\frac{1}{2}$ x $8\frac{1}{2}$	17.60	19.00	9x15	37.00				
4 x 9	18.30	20.00	10x16		40.00			
4½x 9¼	20.30			45.00	48.00			
		22.00	12x19	56.00	60.00			
5 x10	22.30	24.00	14x21	75.50	80.00			
	*Ca	ast Iron	Blind Flange	9	00.00			
2 x 6	\$1.15	\$1.40	9x15	\$5.75	\$6.55			
$2\frac{1}{2}x$ 7	1.30	1.55	10x16					
3 x 71/2	1.40			6.75	7.75			
		1.70	12x19	9.75	10.90			
$3\frac{1}{2}$ x $8\frac{1}{2}$	1.80	2.15	14x21	13.50	14.85			
4 x 9	2.00	2.45	15x221/4	17.00	18.70			
4½x 9¼	2.20	2.65	16x23½					
5 x10		The second secon		20.00	21.80			
	2.40	2.85	18x25	24.00	26.00			
6 x11	3.00	3.50	20x27½	28.00	30.50			
7 x12½	4.00	4.60	22x291/2	33.00	36.00			
8 x13½	4.60	5.30						
		0.30	24x32	40.00	43.50			
~ .	"Sei	mi-steel	Blind Flange	S				
Sami aton	Hommen	05	, ,		CONTRACTOR OF THE PARTY OF THE			

Semi-steel flanges, 25 per cent advance over cast iron.
*All blind flanges, 15-inch and larger are ribbed.

All flanged fittings are always furnished faced only, unless otherwise ordered.

Standard Reducing Cast Iron Companion **Flanges**

For Standard Flanged Valves and Fittings 125 Pounds Steam Working Pressure



These flanges, used in connection with straight or reducing fittings, make it possible to fill orders for reduced sizes more promptly. Customers who desire fittings reduced in this manner will please specify, "Reduce by Flanges if Necessary."

They will always be of the same thickness as the regular companion flanges of corresponding outside diameter, and drilled to the template corresponding to the outside diameter, unless otherwise ordered.

In ordering reducing companion flanges, always give the screwed or reduced size first, then the outside diameter of flange wanted; for instance, if a reducing flange is wanted to connect a 6-inch pipe to a 9-inch flanged valve or fitting having a 15-inch O. D. flange, order a 6x15-inch reducing flange. This will clearly avoid the confusion often caused by orders incorrectly calling for a 9x6 or 6x9-inch flange

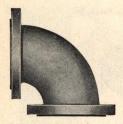
mediteen	ly carring	for a 9x6	or ex9-inch i	lange.	
	Price	E, EACH		Pri	CE, EACH
Size	Faced	Faced	Size	Faced	Faced
Inches	Only	Drilled	Inches	Only	and Drilled
11/4x 6	\$1.30	\$1.55	6x121/2	\$4.40	\$5.00
$1\frac{1}{2}$ x 6	1.30	1.55	6x131/2	5.10	5.80
$1\frac{1}{2}$ X 7	1.45	1.70	6x15	6.35	7.15
1½x 7½	1.55	1.85	6x16	7.45	8.45
2 x 7	1.45	1.70	6x19	10.75	11.90
2 x 7½	1.55	1.85	7x131/2	5.10	5.80
2 x 8½	2.00	2.35	7x15	6.35	7.15
2 x 9	2.20	2.65	7x16	7.45	8.45
2 x10	2.65	3.10	7x19	10.75	11.90
2 x11	3.30	3.80	8x15	6.35	7.15
2 x131/2	5.10	5.80	8x16	7.45	8.45
21/2x 71/2	1.55	1.85	8x19	10.75	11.90
$2\frac{1}{2}$ X $8\frac{1}{2}$	2.00	2.35	8x21	15.00	16.35
2½x 9	2.20	2.65	8x221/4	19.00	20.70
21/2x 91/4	2.40	2.85	9x16	7.45	8.45
$2\frac{1}{2}$ x10	2.65	3.10	9x19	10.75	11.90
2½x11	3.30	3.80	9x21	15.00	16.35
$2\frac{1}{2}$ x $13\frac{1}{2}$	5.10	5.80	10x19	10.75	11.90
2½x16	7.45	8.45	10x21	15.00	16.35
3 x 8½	2.00	2.35	10x221/4	19.00	20.70
3 x 9	2.20	2.65	10x23½	22.00	23.80
3 x 91/4	2.40	2.85	12x21	15.00	16.35
3 x10	2.65	3.10	12x221/4	19.00	20.70
3 x11	3.30	3.80	12x231/2	22.00	23.80
3 x13½ 3 x16	5.10	5.80	12x25	26.50	28.50
	7.45	8.45	14x221/4	19.00	20.70
3½x 9	2.20	2.65	14x23½	22.00	23.80
3½x 9½ 3½x10	2.40	2.85	14x25	26.50	28.50
2½x11	2.65	3.10	14x27½	31.00	33.50
3½x16	3.30	3.80	14x32	44.00	47.50
4 x 91/4	7.45	8.45	15x23½	22.00	23.80
4 x10	2.40	2.85	15x25	26.50	28.50
4 x11	2.65	3.10	15x27½	31.00	33.50
4 x12½	3.30	3.80	15x29½	36.00	39.00
4 x13½	5.10	5.00	16x25	26.50	28.50
4 x16	7.45	5.80	16x27½	31.00	33.50
4½x10	2.65	8.45	16x29½	36.00	39.00
4½x11	3.30	3.10	16x32	44.00	47.50
4½x12½	4.40	3.80	18x27½	31.00	33.50
5 x11	3.30	5.00 3.80	18x291/2	36.00	39.00
5 x12½	4.40	5.00	18x32	44.00	47.50
5 x13½	5.10	5.80	20x291/2	36.00	39.00
5 x16	7.45	8.45	20x32	44.00	47.50
	1.40	0.40			

Companion flanges are always furnished faced only, unless otherwise specified.

Extra Heavy Cast Iron Flanged Fittings

For 250 Pounds Steam Working Pressure

90° Elbows



All extra heavy fittings have a raised surface for gaskets 1/16-inch high, inside of bolt holes.

Bolt holes will be drilled ½-inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

a.	Diameter	Center	PRICE	E, EACH——
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
11/4	5	41/4	\$4.50	\$5.40
11/2	6	$\frac{41}{2}$	4.50	5 40
2	61/2	5	4.50	5.40
2 21/2	71/2	51/2	4.75	5.65
3	81/4	6	5.15	6.25
31/2	9	$6\frac{1}{2}$	6.10	7.35
4	10	7	6.75	8.25
4 4 ¹ / ₂ 5 6 7 8 9	101/2	71/2	8.25	
5'4	11	8	9.53	9.75
6	121/2	81/2		10.85
7	14	9	11.40	13.40
0	15		15.75	18.00
0	101/	10	18.00	20.50
	161/4	$10\frac{1}{2}$	25.50	28.85
10	171/2	111/2	28.50	32.50
12	$20\frac{1}{2}$	13	42.00	46.50
14	23	15	62.00	67.50
15	$24\frac{1}{2}$	$15\frac{1}{2}$	70.00	77.00
16	$25\frac{1}{2}$	$16\frac{1}{2}$	82.00	90.00
18	28	18	106.00	115.00
20	$30\frac{1}{2}$	191/2	135.00	145.00
22	33	201/2	170.00	183.00
24	36	221/2	210.00	225.00
	sizes made to	The state of the s	es unon applia	

Larger sizes made to order. Prices upon application.

45° Elbows

All extra heavy fittings have a raised surface for gaskets ½-inch high, inside of bolt holes.

Bolt holes will be drilled ½-inch larger than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.



	Diameter	Center	PRICE	E, EACH—
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
11/4	5	$2\frac{1}{2}$	\$5.00	\$5.90
11/2	6	$2\frac{3}{4}$	5.00	5.90
2	61/2	3	5.00	5.90
21/2	$7\frac{1}{2}$	$3\frac{1}{2}$	5.25	6.15
3	81/2	$3\frac{1}{2}$	5.65	6.75
31/2	9 -	4	6.75	8.00
4	10	41/2	7.50	9.00
41/2	$10\frac{1}{2}$	41/2	9.00	10.50
5	11	5	10.35	11.85
5 6 7 8 9	$12\frac{1}{2}$	51/2	12.50	14.50
7	14	6	16.50	18.75
8	15	6	19.00	21.50
9	161/4	61/2	26.75	30.10
10	171/2	7	30.00	34.00
12	201/2	8	44.00	48.50
14	23	81/2	62.00	67.50
15	241/2	9	70.00	
16	251/2	91/2		77.00
18	28	$10^{9/2}$	82.00	90.00
20	301/2		106.00	115.00
	20/2	101/2	135.00	145.00
22	33	11	170.00	183.00
24	36	12	210.00	225.00

Larger sizes made to order. Prices upon application.

Extra Heavy Cast Iron Flanged Fittings

For 250 Pounds Steam Working Pressure

Reducing Taper Elbows



Reducing elbows carry same dimensions center to face as regular elbows of largest straight size.

All extra heavy fittings have a raised surface, for gaskets 1/6 inch high, inside of bolt holes.

Bolt holes will be drilled 1/8 inch larger than the diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise specified.

	N. S. T. Wall	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		rise specifica.	
		Diameter	Center	PRICE	, EACH—
	Size	Flanges	to Face	Faced	Faced and
	Inches	Inches	Inches	Only	Drilled
2	x 11/4	$6\frac{1}{2} \times 5$	5	\$9.00	\$9.90
2	x 11/2	$6\frac{1}{2}$ x 6	5	9.00	9.90
21	2x 11/2	$7\frac{1}{2}x$ 6	51/2	9.50	10.40
21	2x 2	$7\frac{1}{2}$ x $6\frac{1}{2}$	51/2	9.50	10.40
3	x 11/2	8½x 6	6	10.25	11.35
3	x 2	8½x 6½	6	10.25	11.35
3	x 21/2	8½x 7½	6	10.25	11.35
	2x 2	0 - 61/			
37	2X 2	9 x 6½	61/2	12.25	13.50
31/	2x 2½ 2x 3	$9 \times 7\frac{1}{2}$	$6\frac{1}{2}$	12.25	13.50
31/		$9 \times 8\frac{1}{4}$	$6\frac{1}{2}$	12.25	13.50
4	x 2	$10 \times 6\frac{1}{2}$	7	13.50	15.00
4	x 21/2	$10 \times 7\frac{1}{2}$	7	13.50	15.00
4	x 3	$10 \times 8\frac{1}{4}$	7	13.50	15.00
4	x 31/2	10 x 9	7	13.50	15.00
5	x 21/2	11 x 7½	8	18.75	20.25
5	x 3	11 x 8½	8	18.75	20.25
5	x 4	11 x10	8		
6			01/	18.75	20.25
0		$12\frac{1}{2}$ x $8\frac{1}{4}$	81/2	22.75	24.75
6	x 3½	12½x 9	81/2	22.75	24.75
6	x 4	$12\frac{1}{2}x10$	81/2	22.75	24.75
6	x 4½	$12\frac{1}{2}$ x $10\frac{1}{2}$	81/2 81/2 81/2	22.75	24.75
6	x 5	12½x11	81/2	22.75	24.75
7	x 4	14 x10	9	31.50	33.75
7	x 5	14 x11	9	31.50	33.75
7	x 6	14 x12½	9	31.50	33.75
8	x 4	15 x10	10	36.00	38.50
8	x 5	15 x11	10	36.00	38.50
8	x 6	15 x12½	10		
				36.00	38.50
8	x 7	15 x14	10	36.00	38.50
10	x 5	17½x11	111/2	57.00	61.00
10	x 6	$17\frac{1}{2}$ x $12\frac{1}{2}$	111/2	57.00	61.00
10	x 7	$17\frac{1}{2}$ x14	111/2	57.00	61.00
10	x 8	17½x15	111/2	57.00	61.00
12	x 7	20½x14	13	84.00	88.50
12	x 8	20½x15	13	84.00	88.50
12	x 9	20½x16¼	13	84.00	88.50
12	x10	20½x17½	13	84.00	88.50
4	x 6	23 x12½	15	105.00	
14		23 x17½			110.50
14	x10	20 211	15	105.00	110.50
	x12		15	105.00	110.50
15	x 6	$24\frac{1}{2}$ x $12\frac{1}{2}$	151/2	120.00	127.00
15	x10	$24\frac{1}{2}$ x $17\frac{1}{2}$	151/2.	120.00	127.00
15	x12	$24\frac{1}{2}$ x $20\frac{1}{2}$	151/2	120.00	127.00
16	x 8	$25\frac{1}{2}$ x15	$16\frac{1}{2}$	135.00	143.00
16	x10	25½x17½	161/2	135.00	143.00
16	x12	25½x20½	161/2	135.00	143.00
16	x14	25½x23	161/2	135.00	143.00
-	42	/ 2	-0/2	200.00	143.00

Elbows not listed above will be made to order at a special price.

Extra Heavy Cast Iron Flanged Fittings

For 250 Pounds Steam Working Pressure

Long Radius Elbows



All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

Size	Diameter	Center		PRICE.	Елсн-
Inches	Flanges Inches	to Face Inches	Radius Inches	Faced	Faced and
2	61/2			Only	Drilled
21/2	$7\frac{1}{2}$	$6\frac{1}{2}$	51/4	\$7.50	\$8.85
3	91/2	7	55/8	8.00	9.35
31/2	81/4	73/4	$6\frac{1}{4}$	8.60	10.25
3/2	9	81/2	67/8	10.25	12.15
4	10	9	73/8	11.25	13.50
41/2	$10\frac{1}{2}$	91/2	73/4	13.75	16.00
5	11	101/4	81/2	15.50	17.75
6	$12\frac{1}{2}$	111/2	95/8	19.00	22.00
7	14	$12\frac{3}{4}$	107/8	26.50	29.85
. 8	15	14	12	30.00	33.75
9	161/4	151/4	13	42.50	47.50
10	171/2	161/2	141/8	47.75	53.75
12	$20\frac{1}{2}$	19	161/2	70.00	76.75
14	23	211/2	187/8	103.50	111.75
15	$24\frac{1}{2}$	223/4	20	117.00	127.00
16	$25\frac{1}{2}$	24	211/4	137.00	149.00
18	28	261/2	235/8	177.00	191.00
20	$30\frac{1}{2}$	29	26	225.00	240.00
22	33	311/2	283/8	285.00	385.00
24	36	34	3034	350.00	373.00
Lorgo	n aigea maa d		TIU	4 1100	313.00

Larger sizes made to order. Elbows of different dimensions from above furnished on order at special prices.

Round Base Elbows

The measurement across the flat edges of square base flange is the same as the diameter of the round base flange.

All extra heavy fittings have a raised surface, for gaskets high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, except base, as quoted unless otherwise ordered.

	D: .		Diameter		-PRICE, EACH	
Size	Diameter	Center	Base		Faced	For Facing
Inches	*Flanges Inches	to Face Inches	Flange	Faced	and	and Drilling
			Inches	Only	Drilled	Base Flange
4	10	7	61/2	\$13.50	\$15.00	\$4.50
41/2	$10\frac{1}{2}$	71/2	$6\frac{1}{2}$	16.50	18.00	4.50
5	11	8	71/2	18.75	20.25	5.25
6	121/2	81/2	71%	22.75	24.75	5.25
7	14	9	71/2	31.50		
8	15	10			33.75	5.25
			10	36.00	38.50	7.50
9	$16\frac{1}{4}$	101/2	10	51.00	54.35	7.50
10	171/2	111/2	10	57.00	61.00	7.50
12	$20\frac{1}{2}$	13	121/2	84.00	88.50	11.00
14	23	15	121/2	105.00	110.50	11.00
15	241/2	151/2	121/2	120.00	127.00	
16	$25\frac{1}{2}$	161/2	121/2	135.00		11.00
18	28				143.00	11.00
		18	15	157.00	166.00	18.00
20	$30\frac{1}{2}$	$19\frac{1}{2}$	15	180.00	190.00	18.00
22	33	201/2	171/2	225.00	238.00	18.00
24	36	$22\frac{1}{2}$	171/2	285.00	300.00	18.00
	1	/2	/2	200.00	300.00	10.00

*Port openings only, not base flange.

Base Tees

Base tees made on special order. Prices on application.

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure

Straight Side Outlet Elbows



All extra heavy fittings have a raised surface, for gaskets 1/6 inch thick inside of bolt holes. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered

	Diameter	Center	PRICE, EACH		
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled	
5	10 11	7 8	\$35.75 37.75	\$38.00 40.00	
6 7	$\frac{12\frac{1}{2}}{14}$	81/2	42.00 51.75	45.00	
8	15 17½	10 11½	61.25	55.00 65.00	
12 14	$20\frac{1}{2}$	13	89.00 113.25	95.00 120.00	
16	$\frac{23}{25\frac{1}{2}}$	$\frac{15}{16\frac{1}{2}}$	146.75 168.00	155.00 180.00	
T					

Larger sizes made to order. Prices upon application.

Reducing Side Outlet Elbows

Reducing on the Branches Same Size



The dimensions of reduced hanged fittings are always regulated by the reductions of the outlet or branch.

Side outlet elbows, whether straight or reducing sizes, carry same dimensions center to face and face to face as regular tees having same reductions.

Side outlet elbows, whether straight or reducing, are furnished with all openings on intersecting center lines.

Bolt holes will not be spot faced unless so ordered, for which an extra charge will be made.

All extra heavy fittings have a raised surface, for gaskets ½ inch thick inside of bolt holes. Bolt holes drilled ½ inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

) , 0 0 0	mer wine or acted	
Size Inches	Diameter Flanges Inches	Center to Face Inches	Faced Only	EACH—Faced and Drilled
4 5	10 11	7 8	\$39.75 41.75	\$42.00 44.00
6 7	$\frac{12\frac{1}{2}}{14}$	81/2	47.00 56.75	50.00
8 10	$\frac{16}{17\frac{1}{2}}$	$\frac{10}{11\frac{1}{2}}$	67.25 99.00	71.00 105.00
12 14	$\frac{201}{2}$	13 15	123.25 161.75	130.00 170.00
16	$25\frac{1}{2}$	$16\frac{1}{2}$	183.00	195.00

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure

Straight Double Branch Elbows



All extra heavy fittings have a raised surface, for gaskets $\frac{1}{16}$ inch thick inside of bolt holes. Bolt holes drilled $\frac{1}{16}$ inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

	Diameter		PRICE,	EACH-
Size	Flanges	to Face	Faced	Faced and
Inches	Inches	Inches	Only	Drilled
4	10	7	\$35.75	\$38.00
5	11	8	42.75	45.00
6	121/2	81/2	49.50	52.50
7	14	9	56.50	60.00
8	15	10	66.25	70.00
10	171/2	111/2	84.00	90.00
12	201/2	13	108.25	115.00
14	23	15	141.75	150.00
16	$25\frac{1}{2}$	$16\frac{1}{2}$	168.00	180.00

Larger sizes made to order. Prices upon application.

Reducing Double Branch Elbows Reducing on the Branches Same Size



The dimensions of reduced flanged fittings are always regulated by the reductions of the outlet or branch.

Double branch elbows, whether straight or reducing sizes, carry same dimensions center to face and face to face as regular straight size elbows and tees.

Prices given for reducing elbows are for fittings reducing on the branches same size. If fittings are wanted with two branches of two different sizes, or reducing on the inlet, they will be furnished on special order at a special price.

All extra heavy fittings have a raised surface, for gaskets ½6 inch thick inside of bolt holes. Bolt holes drilled ½8 inch larger in diameter than diameter of bolts.

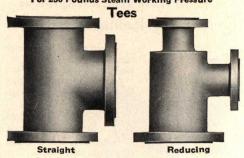
Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

T CLEAN	DILOG ICCOCC OF				
Diameter		Center		PRICE, EACH	
Size	Flanges	to Face	Faced	Faced and	
Inches	Inches	Inches	Only	Drilled	
4	10	7	\$39.75	\$42.00	
5	11	8	47.75	50.00	
6	$12\frac{1}{2}$	81/2	54.50	57.50	
7	14	9	62.50	66.00	
8	15	10	73.75	77.50	
10	171/2	$11\frac{1}{2}$	94.00	100.00	
12	$20\frac{1}{2}$	13	118, 25	125.00	
14	23	15	156.75	165.00	
16	$25\frac{1}{2}$	$16\frac{1}{2}$	188.00	200.00	

Larger sizes made to order. Prices upon application.

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure



All reducing tees, 16 inches and smaller take the same center to face dimensions as straight size tees of largest port. All tees reducing on the run only take the same dimensions center to face as the largest straight size. Tees, sizes 18 inches and larger, and reducing on the outlet, are made in two lengths, depending on the size of outlet.

in two lengths, depending on the size of outlet.

Bullheads, or tees having outlet larger than the run, will be the same length center to face of all openings as a tee with all openings of the size of the outlet.

All extra heavy fittings have a raised surface, for gaskets

16 inch high, inside of bolt holes.
Bolt holes will be drilled 1/8 inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

rurnis	sneu raceu om	Straight Te		
	Diameter	Center	PRICE,	
Size	Flanges	to Face Inches	Faced Only	Faced and Drilled
Inches	Inches		\$6.50	
11/4	5 6	41/4	6.50	\$7.85 7.85
11/2	0	4½ 5	6.50	7.85
2 21/2	61/2	51/2	6.90	8.25
3	81/4	6	7.50	9.15
31/	9	61/2	8.90	10.80
31/2	10	7	9.75	12.00
4 41/2	101/2	71/2	12.00	14.25
5 72	11	8	13.50	15.75
5 6 7 8	121/2	81/2	16.50	19.50
7	14	9	23.00	26.35
9	15	10	26.00	29.75
9	161/4	101/2	37.00	42.00
10	171/2	111/2	41.50	47.50
12	201/2	13	61.00	67.75
14	23	15	90.00	98.25
15	241/2	151/2	102.00	112.00
16	251/2	161/2	119.00	131.00
18	28	18	154.00	168.00
20	301/2	191/2	195.00	210.00
22	33	201/2	247.00	267.00
24	36	221/2	305.00	328.00
		Reducing T		
11/2	6	41/2	\$7.50	\$8.85
2	61/2	5	7.50	8.85
2 21/2	$\frac{61/2}{71/2}$	51/2	8.00	9.35
3 31/2	81/4	6	8.60	10.25
31/2	9	61/2	10.25	12.15
4	10	7	11.25	13.50
4 41/2	101/2	71/2	13.75	16.00
5	11	8	15.50	17.75
6	121/2	81/2	19.00	22.00
6 7	14	9	26.50	29.85
8	15	10	30.00	33.75
9	161/4	$10\frac{1}{2}$	42.50	47.50
10	171/2	111/2	47.75	53.75
12	201/2	13	70.00	76.75
14	23	15	103.50	111.75
15	241/2	151/2	117.00	127.00
16	251/2	$16\frac{1}{2}$	137.00	149.00
18	28	18	177.00	191.00
20	301/2	191/2	225.00	240.00
22	33	201/2	285.00	305.00
24	36	$22\frac{1}{2}$	350.00	373.00

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure

Straight Single Sweep Tees

All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger than the diameter of the

Size of all fittings scheduled indicate inside diameter of ports.

Furnished faced only, unless otherwise ordered.

Size	Diameter	Center	PRICE	E, EACH———
Inches	Flanges Inches	to Face	Faced	Faced and
2	61/2	Inches	Only	Drilled
21/2	71/	5	\$7.50	\$8.85
3	012	$5\frac{1}{2}$	8.00	9.35
31/2	81/4	6	8.60	10.25
3-/2	9	61/2	10.25	12.15
4	10	7	11.25	13.50
41/2	$10\frac{1}{2}$	71/2	13.75	
5	11	8	15.50	16.00
6	121/2	81/2		17.75
7	14	9	19.00	22.00
8	15		26.50	29.85
9	101/	10	30.00	33.75
10	161/4	$10\frac{1}{2}$	42.50	47.50
	171/2	111/2	47.75	53.75
12	$20\frac{1}{2}$	13	70.00	76.75
14	23	15	103.50	
15	241/2	151/2	117.00	111.75
16	$25\frac{1}{2}$	161/2		127.00
18	28	18	137.00	149.00
20	301/2		177.00	191.00
22	33	191/2	225.00	240.00
24		$20\frac{1}{2}$	285.00	305.00
	. 36	$22\frac{1}{2}$	350.00	
Larger	sizes made to	order. Price	es upon applica	tion.
	Roducin	- CI I C	-г арриса	dion.

Reducing Single Sweep Tees Reducing in Run or Branch

All reducing tees, 16 inches and smaller, take same center to face dimensions as straight size tees of largest port. All tees reducing on run only take same dimensions center to face as largest straight size. Tees, sizes 18 inches and larger, and reducing on the outlet, are made in two lengths, depending on size of reduced outlet. Reducing single sweep tees made to order only. Single sweep tees with side openings

All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger than the diameter

Size of all fittings scheduled indicates inside diameter of ports. Furnished faced only, unless otherwise ordered.

101 05.	r urmsned raced	only, unle	ss otherwise or	dered
Size	Diameter	Center		, EACH—
Inches	Flanges	to Face	Faced	Faced and
21/2	Inches	Inches	Only	Drilled
272	71/2	51/2	\$9.15	\$10.50
3	81/4	6	9.90	11.55
31/2	9	61/2	11.75	
4	10	7	13.00	13.65
41/2	101/2	71/2		15.25
5	11	8	15.75	18.00
6	121/2		17.85	20.10
7	14	81/2	22.00	25.00
5 6 7 8 9		9	30.50	33.85
0	15	10	34.50	38.25
	161/4	101/2	49.00	54.00
10	171/2	111/2	55.00	
12	$20\frac{1}{2}$	13	80.00	61.00
14	23	15		86.75
15	241/2	151/2	119.00	127.25
16	251/2		135.00	145.00
18	28	161/2	158.00	170.00
		18	204.00	218.00
20	301/2	191/2	260.00	275.00
22	33	201/2	327.00	347.00
24	36	221/2	402.00	
Large	r gigog made t-	1 " .	102.00	425.00

Larger sizes made to order. Prices upon application.

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure Straight Double Sweep Tees



All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

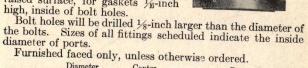
Size	Diameter	Center	Perce	Each—
In.	Flanges	to Face	Faced Facet,	Faced and
	Inches	Inches	Only	Drilled
2 21/2	$\frac{61}{2}$	5	\$7.50	\$8.85
2/2	1/2	51/2	8.00	9.35
3	81/4	6	8.60	10.25
31/2	9	61/2	10.25	12.15
4	10	7	11.25	13.50
41/2	$10\frac{1}{2}$	71/2	13.75	
4 ¹ / ₂ 5 6 7	11	8	15.50	16.00
6	121/2	81/2	19.00	17.75
7	14	9 2		22.00
8	15	10	26.50	29.85
9	161/4	101/2	30.00	33.75
10	171%	111/2	42.50	47.50
12	201/2		47.75	53.75
14	23	13	70.00	76.75
15		15	103.50	111.75
16	241/2	151/2	117.00	127.00
18	251/2	$16\frac{1}{2}$	137.00	149.00
	28	18	177.00	191.00
20	301/2	191/2	225.00	240.00
22	33	201/2	285.00	305.00
24	36	221/2	350.00	373.00
Larger	sizes made to	order. Price		373.00
		_	- chon abbucs	toon.

Reducing Double Sweep Tees

Reducing in Branch Only

All reducing tees 16 inches and smaller reducing on outlet, take same center to face dimensions as straight size tees of largest port. Tees, sizes 18 inches and larger reducing on outlet, are made in two lengths, depending on size of outlet. Double sweep tees not made reducing on run.

All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.



Diameter Center to Face -PRICE, EACH—Faced and Faced Only Flanges Inches Inches Inches Drilled 21/2 71/2 51/2 \$9.15 \$10.50 3 81/4 6 9.90 11.55 31/2 9 61/2 11.75 13.65 10 13.00 15.25 101/2 71/2 15.75 18.00 5 11 8 17.85 67 20.10 121/2 81/2 22.00 25.00 14 9 30.50 33.85 89 15 10 34.50 38.25 $16\frac{1}{4}$ $17\frac{1}{2}$ $20\frac{1}{2}$ 101/2 49.00 54.00 10 55.00 61.00 12 13 80.00 86.75 14 15 23 15 127.25 119.00 24½ 25½ 151/2 135.00 145.00 16 161/2 158.00 170.00 18 28 18 204.00 218.00 20. 301/2 $19\frac{1}{2}$ $20\frac{1}{2}$ 260.00 275.00 22 33 327.00 347.00 221/2 36 402.00 425.00

200.00

Extra Heavy Cast Iron Flanged Fittings

For 250 Pounds Steam Working Pressure

Straight Side Outlet or Four Way Tees



All extra heavy fittings have a raised surface, for gaskets 1/6 inch thick inside of bolt holes. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

Diameter Center to Face Size Inches Faced Faced and Flanges Inches Inches Only Drilled 4 7 \$42.00 10 \$45.00 5 11 8 47.00 50.00 6 81/2 121/2 53.50 57.50 7 14 9 63.00 67.50 8 15 10 72.50 77.50 10 111/2 102.00 110.00 201/2 12 13 131.00 140.00 23 15 159.00 170.00 251/2 16 161/2 184.00

Larger sizes made to order. Prices upon application.

Reducing Side Outlet or Four Way Tees



The dimensions of reduced flanged fittings are always regulated by the reductions of the outlet or branch. Fittings reducing on the run only, the long body pattern will always be used.

Side outlet tees, whether straight or reducing, carry same dimensions center to face and face to face as regular tees having same reductions.

Bolt holes will not be spot faced unless so ordered, for which an extra charge will be made.

All extra heavy fittings have a raised surface, for gaskets inch thick inside of bolt holes. Bolt holes drilled 1/8 inch larger in diameter than diameter of bolts.

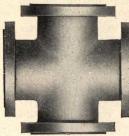
Size of all fittings scheduled indicates inside diameter of

Furnished faced only, unless otherwise ordered.

	Diameter	Center	PRICE, EACH		
Size Inches	Flanges Inches	to Face Inches	Faced Only	Faced and Drilled	
4	10	7	\$47.00	\$50.00	
5	11	8	52.00	55.00	
6	$12\frac{1}{2}$	81/2	59.00	63.00	
7	14	9	70.50	75.00	
8	15	10	80.00	85.00	
10	171/2	$11\frac{1}{2}$	112.00	120.00	
12	$20\frac{1}{2}$	13	146.00	155.00	
14	23	15	174.00	185.00	
16	$25\frac{1}{2}$	$16\frac{1}{2}$	204.00	220.00	

Larger sizes made to order. Prices on application.

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure Straight Crosses



All extra heavy fittings have a raised surface, for gaskets 1/6inch high, inside of bolt holes.

Bolt holes will be drilled 1/8inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter ports.

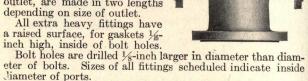
Furnished faced only, unless otherwise ordered.

		Center	PRICE.	EACH-
Size	Diameter	to Face	Faced	Faced and
Inches	Flanges, In.	Inches	Only	Drilled
11/4	5	41/4	\$10.00	\$11.80
11/2	6	41/2	10.00	11.80
2	61/2	5	10.00	11.80
2 21/2	71/2	51/2	10.50	12.30
3	81/4	6	11.50	13.75
31/2	9	$6\frac{1}{2}$	13.50	16.00
4	10	7	15.00	18.00
41/2	101/2	71/2	18.00	21.00
5	11	8	20.50	23.50
6	$12\frac{1}{2}$	81/2	25.00	29.00
7	14	9 ~	35.00	39.50
4½ 5 6 7 8 9	15	10	40.00	45.00
9	161/4	101/2	56.00	62.75
10	171/2	111/2	63.00	71.00
12	$20\frac{1}{2}$	13	92.00	101.00
14	23	15	136.00	147.00
15	241/2	151/2	155.00	169.00
16	$25\frac{1}{2}$	$16\frac{1}{2}$	180.00	196.00
18	28	18	235.00	253.00
20	$30\frac{1}{2}$	191/2	300.00	320.00
22	33	$20\frac{1}{2}$	375.00	401.00
24	36	$22\frac{1}{2}$	465.00	495.00
Large	er sizes made to	order. Price	s upon applicat	

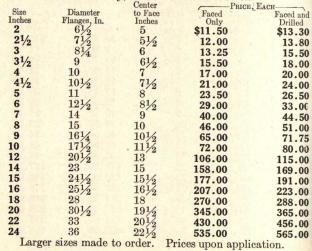
to order. Prices upon application.

Reducing Crosses

All reducing crosses, 16 inches and smaller, take same center to face dimensions as straight size crosses of largest port. All crosses reducing on run only take same dimensions, center to face, as largest straight size. Sizes 18 inches and larger, reducing on the outlet, are made in two lengths



Furnished faced only, unless otherwise ordered.



Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure Straight Y Branches or Laterals



All extra heavy fittings have a raised surface, for gaskets ½-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8 inch larger than the diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports.

Furnished faced only, unless otherwise ordered.

		The second second	repp office Mise old	ered.	
Diameter		Center	PRICE, EACH-		
Size	Flanges	to Face	Faced	Faced and	
Inches		Inches	Only	Drilled	
2	$6\frac{1}{2}$	9	\$10.00		
21/2	$7\frac{1}{2}$	101/2	10.50	\$11.80	
3	81/4			12.30	
	0/4	11	11.50	13.75	
31/2	9	$12\frac{1}{2}$	13.50	16.00	
4	10	131/2	15.00	18.00	
41/2	$10\frac{1}{2}$	141/2	18.00		
5	11	15		21.00	
6	121/2		20.50	23.50	
6		171/2	25.00	29.00	
-	14	19	35.00	39.50	
8	15	201/2	40.00	45.00	
9	161/4	221/2	56.00		
10	171/2	24		62.75	
12			63.00	71.00	
	$20\frac{1}{2}$	271/2	92.00	101.00	
14	23	31	136.00	147.00	
15	241/2	33	155.00	169.00	
16	$25\frac{1}{2}$	341/2	180.00		
18	28	371/2		196.00	
20			235.00	253.00	
	301/2	401/2	300.00	320.00	
22	33	431/2	375.00	401.00	
24	36	471/2	465.00	495.00	
Lar	ger sizes made to			493.00	
	The state of the s		Prices upon applic		
	Reducing V	D		**************************************	

Reducing Y Branches or Laterals Reducing in Run or Branch

All Y branches or laterals reducing on run only carry same dimensions, face to face, as straight size laterals. All reducing Y or laterals, 16 inches and smaller, take same center to face dimensions as same sizes in straight size fittings. Sizes 18 inches and up, reducing on branch, are made in two lengths, depending on size of branch.

All extra heavy fittings have a raised surface, for gaskets inch high, inside of bolt

holes. Bolt holes are drilled ½ inch larger in diameter than diameter of bolts. Sizes of all fittings scheduled indicates inside diameter of ports.

	rante oct of po	IUS.		
Furni	ished faced on	ly, unless	otherwise ordered	
		Center	Pero Pero	- T
Size	Flanges	to Face	Faced	E, EACH
Inches	Inches	Inches	Only	Faced and Drilled
21/2	71/2	101/2	\$12.00	\$13.80
3	81/4	11	13.25	15.50
31/2	9	121/9	15.50	
4	10	131/2		18.00
41/2	$10\frac{1}{2}$	141/2	17.00	20.00
5 ~	11		21.00	24.00
6	121/2	15	23.50	26.50
6		171/2	29.00	33.00
8	14	19	40.00	44.50
0	15	$20\frac{1}{2}$	46.00	51.00
9	$16\frac{1}{4}$	$22\frac{1}{2}$	65.00	71.75
10	$17\frac{1}{2}$	24	72.00	
12	201/2	271/2	106.00	80.00
14	23.	31		115.00
15	241/2	33	158.00	169.00
16	$25\frac{1}{2}$		177.00	191.00
18		341/2	207.00	223.00
	28	$37\frac{1}{2}$	270.00	288.00
20	$30\frac{1}{2}$	$40\frac{1}{2}$	345.00	365.00
22	33	431/2	430.00	
24	36	471/2	535.00	456.00
Larger	sizes made	to order.	D'	565.00
Ü		or order.	Prices upon app	olication.

Extra Heavy Cast Iron Flanged Fittings For 250 Pounds Steam Working Pressure

Standard Taper Reducers



All extra heavy fittings have a raised surface, for gaskets 1/6-inch high, inside of bolt holes.

Bolt holes will be drilled 1/8-inch larger in diameter than diameter of the bolts.

Size of all fittings scheduled indicates inside diameter of ports. The face to face dimensions standard or eccentric will be the same.

Furnished faced only unless otherwise ordered.

			ner wise or	dered.	
	C.	Diameter	Center	Daven	TO
	Size Inches	Flanges	to Face	Faced	Faced and
		Inches	Inches	Only	Drilled
	2½x 2 3 x 2	$7\frac{1}{2}$ x $6\frac{1}{2}$		\$9.50	\$10.40
		$8\frac{1}{4}$ x $6\frac{1}{2}$	6	10.25	11.35
3	31/2x 21/2	$9 \times 7\frac{1}{2}$	61/2	12.25	
	1 x 2	10 x 6½	7	13.50	13.50
	4 x 21/2	10 x 71/2	7		15.00
4	1 x 3	10 x 81/4	7	13.50	15.00
	5 x 2	11 x 6½	8	13.50	15.00
	x 21/2	11 x 7½	0	18.75	20.25
5	x 3	11 x 81/4	8	18.75	20.25
5	x 4		8	18.75	20.25
6	x 3	11 x10	. 8	18.75	20.25
6	01/	12½x 8¼	9	22.75	24.75
6		12½x 9	9	22.75	24.75
6		$12\frac{1}{2} \times 10$	9	22.75	24.75
0	x 5	$12\frac{1}{2}$ x11	9	22.75	24.75
7		14 x 81/4	10	31.50	33.75
7		14 x10	10	31.50	33.75
7	x 5	14 x11	10	31.50	33.75
7		14 x12½	10		33.75
8		15 x 8½	11	31.50	33.75
8		15 x10	11	36.00	38.50
8	x 5	15 x11½	11	36.00	38.50
8		15 x12	The second secon	36.00	38.50
10	x 4	171/210	11	36.00	38.50
10	x 5	17½x10	12	57.00	61.00
10	x 6	17½x11	12	57.00	61.00
10	x 8	17½x12½	12	57.00	61.00
12	x 5	17½x15	12	57.00	61.00
12		20½x11	14	84.00	88.50
12	x 6	$20\frac{1}{2}$ x $12\frac{1}{2}$	14	84.00	88.50
	x 8	$\begin{array}{c} 20\frac{1}{2}x12\frac{1}{2} \\ 20\frac{1}{2}x15 \end{array}$	14	84.00	88.50
12	x10	20½x17½	14	84.00	88.50
14	x 6	23 x12½	16	105.00	110 50
14	x 8	23 x15	16	105.00	110.50
14	x10	23 x17½	16	105.00	110.50
14	x12	23 x20½	16		110.50
15	x 8	24½x15	17	105.00	110.50
15	x10	24½x17½	17	120.00	127.00
15	x12	24½x20½		120.00	127.00
15	x14	24½x23	17	120.00	127.00
16	x 8	$25\frac{1}{2}x15$	17	120.00	127.00
16	x10	2572X10 251/171/	18	135.00	143.00
16	x12	25½x17½	18	135.00	143.00
16	x14	$25\frac{1}{2}$ x $20\frac{1}{2}$	18	135.00	143.00
18	x10	25½x23	18	135.00	143.00
18		28 x17½	19	157.00	166.00
	x12	$28 \times 20\frac{1}{2}$	19	157.00	166.00
18	x14	28 x23	19	157.00	166.00
18	x16	28 x25½	19	157.00	166.00
20	x12	$30\frac{1}{2}$ x20\frac{1}{2}	20	180.00	190.00
20	x14	$30\frac{1}{2}$ x23	20	180.00	190.00
20	x16	$30\frac{1}{2}$ x $25\frac{1}{2}$	20	180.00	190.00
20	x18	30½x28	20	180.00	190.00
22	x14	33 x23	22	225.00	190.00
22	x16	33 x25½	22	225.00	238.00
22	x18	33 x28	22	225.00	238.00
22	x20	33 x30½	22	225.00	238.00
24	x16	36 x25½		225.00	238.00
24	x18	36 x28	24	285.00	300.00
24	x20		24	285.00	300.00
24	x22	/2	24	285.00	300.00
			24	285.00	300.00
1	aper reduc	ers of any other	dimongian	a	White y the same

Taper reducers of any other dimensions special on order.

Eccentric Taper Reducers

Eccentric taper reducers furnished on special order. Prices upon application.

Extra Heavy Companion Flanges

250 Pounds Steam Working Pressure





Back View Showing Hub

Blind Flange

\$6.40

\$7.70

Cast	ron	Fla	naes

		E, EACH		PRICE, EACH	
Size	Faced	Faced and	Size	Faced	Faced and
Inches	Only	Drilled	Inches	Only	Drilled
1 x 4½	\$.95	\$1.30	8x15	\$5.10	\$6.15
11/4x 5	1.00	1.35	9x161/4	6.30	7.50
1½x 6	1.10	1.45	$10x17\frac{1}{2}$	7.40	8.90
2 x 6½	1.25	1.60	$12x20\frac{1}{2}$	10.75	12.50
2½x 7½	1.40	1.75	14x23	15.00	17.00
3 x 81/4	1.60	2.05	$15x24\frac{1}{2}$	19.00	21.50
3½x 9	2.00	2.55	16x25½	22.25	25.00
4 x10	2.25	2.95	18x28	26.00	29.00
4½x10½	2.40	3.10	20x30½	31.00	35.00
5 x11	2.65	3.35	22x33	36.00	41.00
6 x12½	3.30	4.05	24x36	45.00	50.00
7 x14	4.40	5.30	6		
CONTRACTOR OF THE PARTY OF THE	The latest and the same				

Malleable Iron Flanges

\$1.65

Semi-steel Flanges

Double list of cast iron.

1 x $4\frac{1}{2}$ \$1.20

11/4x 5	1.25	1.70	9x161/4	7.90	9.40
1½x 6	1.35	1.80	10x171/2		11.00
2 x 61/2	1.55	2.00	12x201/2	13.50	15.50
2½x 7½	1.75	2.20	14x23	18.50	21.00
3 x 81/4	2.00	2:55	15x241/2	24.00	27.00
3½x 9	2.50	3.20	16x25½	28.00	31.00
4 x10	2.80	3.70	18x28	32.50	36.00
4½x10½	3.00	3.90	20x30½	39.00	44.00
5 x11	3.30	4.20	22x33	45.00	51.00
6 x12½	4.10	5.05	24x36	56.00	62.00
7 x14	5.50	6.60			
		Cast Stee	I Flamman		
		Cast Stee	I Flanges		
1 x 4½	\$5.00	\$6.50	8x15	\$27.00	\$33.00
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	\$5.00 5.40			\$27.00 29.50	\$33.00 35.50
		\$6.50	8x15		
11/4x 5	5.40	\$6.50 7.00	8x15 9x16 ¹ / ₄	29.50	35.50
1½x 5 1½x 6	5.40 5.90	\$6.50 7.00 7.50	$8x15$ $9x16\frac{1}{4}$ $10x17\frac{1}{2}$	29.50 34.50	35.50 41.50
1½x 5 1½x 6 2 x 6½	5.40 5.90 6.90	\$6.50 7.00 7.50 8.50	8x15 9x16 ¹ / ₄ 10x17 ¹ / ₂ 12x20 ¹ / ₂ 14x23 15x24 ¹ / ₂	29.50 34.50 46.00	35.50 41.50 54.00
1½x 5 1½x 6 2 x 6½ 2½x 7½	5.40 5.90 6.90 7.30	\$6.50 7.00 7.50 8.50 9.50	$8x15$ $9x16\frac{1}{4}$ $10x17\frac{1}{2}$ $12x20\frac{1}{2}$ $14x23$	29.50 34.50 46.00 55.50	35.50 41.50 54.00 65.00
1½x 5 1½x 6 2 x 6½ 2½x 7½ 3 x 8¼ 3½x 9 4 x10	5.40 5.90 6.90 7.30 8.70	\$6.50 7.00 7.50 8.50 9.50 12.00	8x15 9x16 ¹ / ₄ 10x17 ¹ / ₂ 12x20 ¹ / ₂ 14x23 15x24 ¹ / ₂	29.50 34.50 46.00 55.50 64.00	35.50 41.50 54.00 65.00 75.00
1½x 5 1½x 6 2 x 6½ 2½x 7½ 3 x 8¼ 3½x 9	5.40 5.90 6.90 7.30 8.70 12.10 14.80 15.80	\$6.50 7.00 7.50 8.50 9.50 12.00 15.50	8x15 9x16 ¹ / ₄ 10x17 ¹ / ₂ 12x20 ¹ / ₂ 14x23 15x24 ¹ / ₂ 16x25 ¹ / ₂	29.50 34.50 46.00 55.50 64.00 78.00	35.50 41.50 54.00 65.00 75.00 90.00
1½x 5 1½x 6 2 x 6½ 2½x 7½ 3 x 8¼ 3½x 9 4 x10	5.40 5.90 6.90 7.30 8.70 12.10 14.80	\$6.50 7.00 7.50 8.50 9.50 12.00 15.50 18.50	$\begin{array}{c} 8x15 \\ 9x1614 \\ 10x171/2 \\ 12x201/2 \\ 14x23 \\ 15x241/2 \\ 16x251/2 \\ 18x28 \end{array}$	29.50 34.50 46.00 55.50 64.00 78.00 98.00	35.50 41.50 54.00 65.00 75.00 90.00 111.00
1½x 5 1½x 6 2 x 6½ 2½x 7½ 3 x 8¼ 3½x 9 4 x10 4½x10½	5.40 5.90 6.90 7.30 8.70 12.10 14.80 15.80	\$6.50 7.00 7.50 8.50 9.50 12.00 15.50 18.50 19.50	8x15 9x1614 10x171/2 12x201/2 14x23 15x241/2 16x251/2 18x28 20x301/2	29.50 34.50 46.00 55.50 64.00 78.00 98.00 117.00	35.50 41.50 54.00 65.00 75.00 90.00 111.00 131.00

Furnished with bolt holes spot faced, when ordered faced							
and drilled, at price given for faced and drilled.							
Forged Steel Flanges							
1 x 4½	\$7.50	\$8.00	$6x12\frac{1}{2}$	\$25.40	\$27.00		
11/4x 5	8.40	9.00	7x14	27.20	32.00		
1½x 6	9.40	10.00	8x15	32.00	35.00		
2 x 6½	10.40	11.00	9x161/4	37.00	40.00		
2½x 7½	11.80	13.00	$10x17\frac{1}{2}$	45.00	48.00		
3 x 81/4	13.70	15.00	$12x20\frac{1}{2}$	56.00	60.00		
$3\frac{1}{2}x 9$	17.60	19.00	14x23	75.50	80.00		
4 x10	18.30	20.00	$15x24\frac{1}{2}$	84.00	90.00		
4½x10½	20.30	22.00	$16x25\frac{1}{2}$	93.00	100.00		
5 x11	22.30	24.00					
Cast Iron Blind Flanges							
$1\frac{1}{2}$ x 6	\$1.65	\$2.00	$9x16\frac{1}{4}$	\$9.50	\$10.70		
2 x 6½	1.90	2.25	$10x17\frac{1}{2}$	11.00	12.50		
2½x 7½	2.10	2.45	$12x20\frac{1}{2}$	16.00	17.75		
3 x 81/4	2.40	2.85	14x23	22.50	24.50		
$3\frac{1}{2}x 9$	3.00	3.55	$15x24\frac{1}{2}$	28.50	31.00		
4 x10	3.35	4.05	$16x25\frac{1}{2}$	33.50	36.25		
4½x10½	3.60	4.30	18x28	39.00	42.00		
5 x11	4.00	4.70	$20x30\frac{1}{2}$	46.00	50.00		
$6 \text{ x} 12\frac{1}{2}$	5.00	5.75	22x33	54.00	59.00		
7 x14	6.60	7.50	24x36	67.00	72.00		
8 x15	7.65	8.70					
*Semi-steel Blind Flanges							

Semi-steel flanges, 25 per cent advance over cast iron.
*All blind flanges, 10-inch and larger, are ribbed.
All flanged fittings are always furnished faced only, unless

otherwise specified.

Extra Heavy Cast Iron Reducing Companion Flanges

For Extra Heavy Flanged Valves and Fittings

250 Pounds Steam Working Pressure



These flanges used in connection with straight or reducing fittings, make it possible to fill orders more promptly. Customers who desire fittings reduced in this manner will please specify "Reduce by Flanges if Necessary."

These flanges will always be of the same thickness as the regular companion flanges of corresponding outside diameters, and drilled to the template corresponding to the outside diameters. side diameter, unless otherwise ordered.

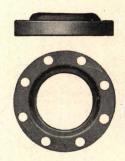
In ordering reducing companion flanges always give the screwed or reduced size first, then the outside diameter of flange wanted; for instance, if a reducing flange is wanted to connect a 6-inch pipe to a 9-inch flanged valve or fitting having a 16½-inch O. D. flange, order a 6x16½-inch reducing flange. This will clearly avoid the confusion often caused by orders incorrectly calling for a 9x6 or a 6x9-inch flange.

	PRICE, EACH			PRICE, EACH	
	Faced			Fa	
Size	Faced	and	Size	Faced	and
In.	Only	Drilled	In.	Only	Drilled
11/4x 6	\$1.80	\$2.15	6x14	\$7.25	\$8.15
$1\frac{1}{2}$ $6\frac{1}{2}$	2.10	2.45	8x15	8.40	9.45
1½x 7½	2.30	2.65	6x16 ¹ / ₄	10.50	11.70
1½x 81/4	2.65	3.10	6x17½	12.00	13.50
2 x 7½	2.30	2.65	6x201/2	17.50	19.25
2 x 81/4	2.65	3.10	7x15	8.40	9.45
2 x 9	3.30	3.85	7x161/4	10.50	11.70
2 x10	3.70	4.40	7x171/2	12.00	13.50
2 x10 2 x10½ 2 x11	4.00	4.70	7x201/2	17.50	19.25
2 x11	4.40	5.10	8x161/4	10.50	11.70
2 x12½	5.50	6.25	8x171/2	12.00	13.50
21/2x 81/4	2.65	3.10	8x201/2	17.50	19.25
21/2x 9	3.30	3.85	8x23	25.00	27.00
2½x10	3.70	4.40	8x241/2	31.50	34.00
21/2×101/2	4.00	4.70	9x171/2	12.00	13.50
2½x11	4.40	5.10	9x201/2	17.50	
2½x12½	5.50	6.25	9x20 ⁻ / ₂ 9x23	25.00	19.25
3 x 9	3.30	3.85	10x20 ¹ / ₂		27.00
3 x10	3.70	4.40		17.50	19.25
			10x23	25.00	27.00
3 x10½ 3 x11	4.00	4.70	10x24½	31.50	34.00
		5.10	10x25½	37.00	39.75
	5.50	6.25	12x23	25.00	27.00
3 x15	8.40	9.45	12x24½	31.50	34.00
3½x10	3.70	4.40	12x25½	37.00	39.75
3½x10½	4.00	4.70	12x28	43.00	46.00
3½x11	4.40	5.10	14x241/2	31.50	34.00
3½x15	8.40	9.45	14x25½	37.00	39.75
4 x10½	4.00	4.70	14x28	43.00	46.00
4 x11	4.40	5.10	14x30½	51.00	55.00
4 x12½	5.50	6.25	15x25½	37.00	39.75
4 x15	8.40	9.45	15x28	34.00	46.00
4 x16 ¹ / ₄	10.50	11.70	15x30½	51.00	55.00
41/4×11	4.40	5.10	16x28	43.00	46.00
4½x12½	5.50	6.25	16x30½	51.00	55.00
4½x14	7.25	8.15	16x33	60.00	65.00
5 x12½	5.50	6.25	18x301/2	51.00	55.00
5 x14	7.25	-8.15	18x33	60.00	65.00
5 x15	8.40	9.45	18x36	74.00	79.00
5 x16 ¹ / ₄	10.50	11.70	20x33	60.00	65.00
5 x17½	12.00	13.50	20x36	74.00	79.00

Companion flanges are always furnished faced only, unless otherwise ordered.

Templates and Prices for Drilling Standard and Low Pressure Flanged Valves and Fittings

Sizes 1 to 48-inch, Inclusive



These drilling templates are in multiples of four, so that fittings may be made to face in any quarter, and bolt holes straddle the center line.

They can be drilled to any other template, if so desired.

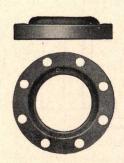
Bolt holes are drilled 1/8 inch larger than nominal diameter of bolts.

							PRICE, E	ch for l	DRILLING
Size In.	In.	Thick- ness Flanges In.	Bolt Circle In.	No. Bolts	In.	Bolt Lengths In.	Valves	Angle Valves	Cross Valves and Cross Safety Valves
$ \begin{array}{c} 1 \\ 1 \frac{1}{4} \\ 1 \frac{1}{2} \\ 2 \end{array} $	$ \begin{array}{c} 4 \\ 4^{1}/2 \\ 5 \\ 6 \end{array} $	7/16 1/2 9/16 5/8	$ \begin{array}{c} 3 \\ 3 \\ 3 \\ 4 \\ 4 \\ 4 \\ 4 \end{array} $	4 4 4 4	7/16 7/16 1/2 5/8	$1\frac{1}{2}$ $1\frac{1}{2}$ $1\frac{3}{4}$ 2	\$.60 .60 .60 .75	\$1.00 1.00 1.00 1.25	\$1.20 1.20 1.20 1.50
2½ 3 3½ 4	7 7½ 8½ 9	11/16 3/4 13/16 15/16	5½ 6 7 7½	4 4 4 8	5/8 5/8 5/8 5/8	$2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{2}$ $2\frac{3}{4}$.75 .75 1.00 1.25	1.25 1.25 1.50 1.75	1.50 1.50 2.00 2.50
4 ¹ / ₂ 5 6 7	$9\frac{1}{4}$ 10 11 $12\frac{1}{2}$	15/16 $15/16$ 1 $11/16$	$7\frac{3}{4}$ $8\frac{1}{2}$ $9\frac{1}{2}$ $10\frac{3}{4}$	8 8 8 8	3/4 3/4 3/4 3/4	$2\frac{3}{4}$ $2\frac{3}{4}$ 3	1.50 1.50 1.75 2.25	2.00 2.00 2.50 3.00	3.00 3.00 3.50 4.50
8 9 10 12	$13\frac{1}{2}$ 15 16 19	$1\frac{1}{8}$ $1\frac{1}{8}$ $1\frac{3}{16}$ $1\frac{1}{4}$	$11\frac{3}{4}$ $13\frac{1}{4}$ $14\frac{1}{4}$ 17	$ \begin{array}{c} 8 \\ 12 \\ 12 \\ 12 \\ \end{array} $	3/4 3/4 7/8 7/8	$ 3\frac{1}{4} $ $ 3\frac{1}{4} $ $ 3\frac{1}{2} $ $ 3\frac{1}{2} $	2.25 2.50 2.50 3.50	3.00 3.50 3.50 5.00	4.50 5.00 5.00 7.00
14 15 16 18	21 $22\frac{1}{4}$ $23\frac{1}{2}$ 25	$1\frac{3}{8}$ $1\frac{3}{8}$ $1\frac{7}{16}$ $1\frac{9}{16}$	$18\frac{3}{4}$ 20 $21\frac{1}{4}$ $22\frac{3}{4}$	12 16 16 16	1 1 1 1½8	4 4 4 4 ¹ / ₂	4.00 4.50 5.00 6.00	6.00 6.50 7.00 10.00	::::
20 22 24 26	$27\frac{1}{2}$ $29\frac{1}{2}$ 32 $34\frac{1}{4}$	1^{11}_{16} 1^{13}_{16} 1^{7}_{8} 2	25 $27\frac{1}{4}$ $29\frac{1}{2}$ $31\frac{3}{4}$	20 20 20 24	$1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{1}{4}$ $1\frac{1}{4}$	$4\frac{3}{4}$ 5 $5\frac{1}{4}$ $5\frac{1}{2}$	7.50 9.00 10.00 11.00	12.00 14.00 16.00 18.00	
28 30 32 34	$36\frac{1}{2}$ $38\frac{3}{4}$ $41\frac{3}{4}$ $43\frac{3}{4}$	$2\frac{1}{16}$ $2\frac{1}{8}$ $2\frac{1}{4}$ $2\frac{5}{16}$	$ \begin{array}{r} 34 \\ 36 \\ 38 \frac{1}{2} \\ 40 \frac{1}{2} \end{array} $	28 28 28 32	$1\frac{1}{4}$ $1\frac{3}{8}$ $1\frac{1}{2}$ $1\frac{1}{2}$	$5\frac{1}{2}$ $5\frac{3}{4}$ $6\frac{1}{4}$ $6\frac{1}{2}$	12.00 12.00 12.00 14.00	20.00 22.00 22.00 24.00	
36 38 40 42	46 48 ³ / ₄ 50 ³ / ₄ 53	$2\frac{3}{8}$ $2\frac{3}{8}$ $2\frac{1}{2}$ $2\frac{5}{8}$	$42\frac{3}{4}$ $45\frac{1}{4}$ $47\frac{1}{4}$ $49\frac{1}{2}$	32 32 36 36	$1\frac{1}{2}$ $1\frac{5}{8}$ $1\frac{5}{8}$ $1\frac{5}{8}$	$6\frac{1}{2}$ $6\frac{3}{4}$ 7 $7\frac{1}{4}$	14.00 25.00	24.00	
44 46 48	$55\frac{1}{4}$ $57\frac{1}{4}$ $59\frac{1}{2}$	$2\frac{5}{8}$ $2\frac{11}{16}$ $2\frac{3}{4}$	51 ³ ⁄ ₄ 52 ³ ⁄ ₄ 56	40 40 44	$1\frac{5}{8}$ $1\frac{5}{8}$ $1\frac{5}{8}$	$7\frac{1}{4}$ $7\frac{1}{2}$ $7\frac{1}{2}$	30.00		

Bolt holes are spot faced only when so ordered except cast steel, which are always furnished spot faced.

Templates and Prices for Drilling Extra Heavy Flanged Valves and Fittings

Sizes 1 to 48-Inch Inclusive



These drilling templates are in multiples of four, so that fittings may be made to face in any quarter, and bolt holes straddle the center line.

They can be drilled to any other template, if so desired.

Bolt holes are drilled \(\frac{1}{8} \) inch larger than nominal diameter of bolts.

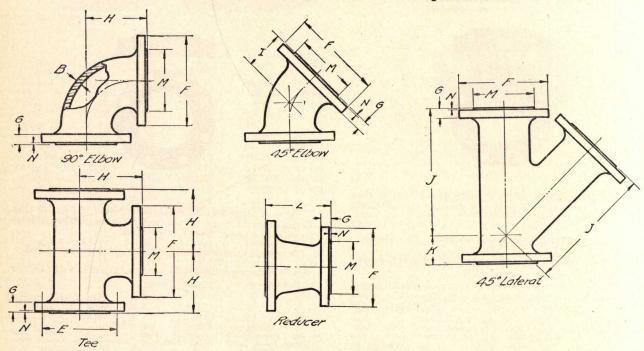
						Į	PRICE, EA	CH FOR I	RILLING
Size Inches	Inches	Thick- ness Flanges Inches	Bolt Circle Inches	No. of Bolts	Size Bolts Inches	Bolt Lengths Inches	Flanges Except Angle Valves	Angle Valves	Cross Valves
$ \begin{array}{c} 1 \\ 1^{1/4} \\ 1^{1/2} \\ 2 \end{array} $	$ \begin{array}{c} 4\frac{1}{2} \\ 5 \\ 6 \\ 6\frac{1}{2} \end{array} $	11/16 3/4 13/16 7/8	$ \begin{array}{r} 3\frac{1}{4} \\ 3\frac{3}{4} \\ 4\frac{1}{2} \\ 5 \end{array} $	4 4 4 4	1/2 1/2 5/8 5/8	$ \begin{array}{c} 2 \\ 2 \frac{1}{4} \\ 2 \frac{1}{2} \\ 2 \frac{1}{2} \end{array} $	\$.60 .60 .60 .75	\$1.00 1.00 1.00 1.25	\$1.20 1.50
2½ 3 3½ 4	7½ 8¼ 9 10	$1 \\ 1\frac{1}{8} \\ 1\frac{3}{16} \\ 1\frac{1}{4}$	57/8 65/8 71/4 77/8	4 8 8 8	3/4 3/4 3/4 3/4	$ \begin{array}{c} 3 \\ 3 \\ 4 \\ 3 \\ 4 \\ 3 \\ 2 \end{array} $.75 .75 1.00 1.25	1.25 1.25 1.50 1.75	1.50 1.50 2.00 2.50
4½ 5 6 7	$10\frac{1}{2}$ 11 $12\frac{1}{2}$ 14	$1\frac{5}{16}$ $1\frac{3}{8}$ $1\frac{7}{16}$ $1\frac{1}{2}$	$8\frac{1}{2}$ $9\frac{1}{4}$ $10\frac{5}{8}$ $11\frac{7}{8}$	8 8 12 12	3/4 3/4 3/4 7/8	$ \begin{array}{c} 3\frac{1}{2} \\ 3\frac{3}{4} \\ 3\frac{3}{4} \\ 4 \end{array} $	1.50 1.50 1.75 2.25	2.00 2.00 2.50 3.00	3.00 3.00 3.50 4.50
8 9 10 12	$\begin{array}{c} 15 \\ 16\frac{1}{4} \\ 17\frac{1}{2} \\ 20\frac{1}{2} \end{array}$	$1\frac{5}{8}$ $1\frac{3}{4}$ $1\frac{7}{8}$ 2	13 14 $15\frac{1}{4}$ $17\frac{3}{4}$	12 12 16 16	7/8 1 1 11/8	$ \begin{array}{c} 4\frac{1}{4} \\ 4\frac{3}{4} \\ 5 \\ 5\frac{1}{4} \end{array} $	2.25 2.50 2.50 3.50	3.00 3.50 3.50 5.00	4.50 5.00 5.00 7.00
14 15 16 18	23 $24\frac{1}{2}$ $25\frac{1}{2}$ 28	$2\frac{1}{8}$ $2\frac{3}{16}$ $2\frac{1}{4}$ $2\frac{3}{8}$	$20\frac{1}{4}$ $21\frac{1}{2}$ $22\frac{1}{2}$ $24\frac{3}{4}$	$20 \\ 20 \\ 20 \\ 24$	$ \begin{array}{c} 1\frac{1}{8} \\ 1\frac{1}{4} \\ 1\frac{1}{4} \\ 1\frac{1}{4} \end{array} $	$5\frac{1}{2}$ $5\frac{3}{4}$ 6 $6\frac{1}{4}$	4.00 4.50 5.00 6.00	6.00 6.50 7.00	8.00 9.00
20 22 24 26	$30\frac{1}{2}$ 33 36 $38\frac{1}{4}$	$2\frac{1}{2}$ $2\frac{5}{8}$ $2\frac{3}{4}$ $2\frac{13}{16}$	27 $29\frac{1}{4}$ 32 $34\frac{1}{2}$	24 24 24 28	$1\frac{3}{8}$ $1\frac{1}{2}$ $1\frac{5}{8}$ $1\frac{5}{8}$	$6\frac{1}{2}$ 7 $7\frac{1}{2}$ $7\frac{3}{4}$	7.50 9.00 10.00		
28 30 32 34	$40\frac{3}{4}$ 43 $45\frac{1}{4}$ $47\frac{1}{2}$	$2^{15}/_{16}$ $3^{1}/_{8}$ $3^{1}/_{4}$	37 $39\frac{1}{4}$ $41\frac{1}{2}$ $43\frac{1}{2}$	28 28 28 28	$1\frac{5}{8}$ $1\frac{3}{4}$ $1\frac{7}{8}$ $1\frac{7}{8}$	8 8½ 8½ 8½ 9	12.00		
36 38 40 42	50 52½ 54½ 57	33/8 37/16 39/16 311/16	$ \begin{array}{r} 46 \\ 48 \\ 50\frac{1}{4} \\ 52\frac{3}{4} \end{array} $	32 32 36 36	$1\frac{7}{8}$ $1\frac{7}{8}$ $1\frac{7}{8}$ $1\frac{7}{8}$	$9\frac{1}{4}$ $9\frac{1}{4}$ $9\frac{1}{2}$ $9\frac{3}{4}$	 		
44 46 48	$59\frac{1}{4}$ $61\frac{1}{2}$ 65	$\frac{3\frac{3}{4}}{3\frac{7}{8}}$	55 57½ 60¾	40	2	$10 \\ 10\frac{1}{4} \\ 10\frac{1}{2}$			

Bolt holes are spot faced only when so ordered except cast steel, which are always furnished spot faced.

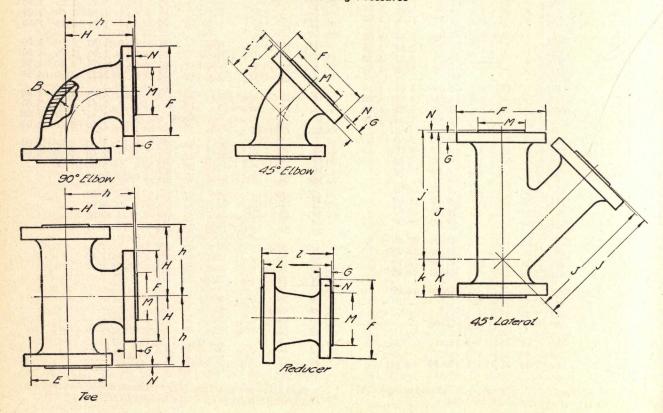
Walworth Sigma Steel Flanged Fittings

Tentative American Standard

Dimension Cuts for 250 Pounds Steam Working Pressure



Dimension Cuts for 400, 600 and 900 Pounds
Steam Working Pressures



Walworth Sigma Steel Flanged Fittings

Tentative American Standard



Walworth Sigma Steel Fittings conform to the Tentative American Steel Flange and Flange Fittings Standards for

250, 400, 600 and 900 pounds steam working pressures at total temperatures of 750° F.

Finished Dimensions for 250 Pounds Steam Working Pressure

		- Company of the Company									WORKING	rressu	ire			
1 1 1 1 1	8	Diam. of Fitting A 2 21/2 3 31/2 4 5 6 8 10 12 131/4 151/4 17	of Shell B 1.4.4.4.4.4.9.32.5.66.8.8.8.8.1.1.2.1.7.32.1.1.3.2.2.1.7.32.2.1.5.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8	No. of Bolts C 4 4 8 8 8 8 12 12 16 16 20 20 24	Diam. of Bolts D 5/8 34 34 34 34 34 31 11/8 11/8 11/4 11/4	Diam. of Bolt Circle E 5 5 7 8 6 5 8 7 1 4 7 8 9 1 4 10 5 8 1 5 1 4 20 1 4 20 1 4 20 2 4 3 4	Diam. of Flange F 61/2 71/2 81/4 9 10 11 121/2 15 171/2 201/2 23 251/2 28	Minimum Thick, of Flange G 7/8 1 11/8 13/16 11/4 13/8 17/16 15/8 2 21/8 21/4 23/8	MENSIONS, I Center to Face of Face of Ell, Tee and Cross H 5 51/2 6 61/2 7 8 81/2 10 111/2 13 15 161/2 18		Long C. to F. Lateral 9 10 ¹ / ₂ 11 12 ¹ / ₂ 13 ¹ / ₂ 15 17 ¹ / ₂ 20 ¹ / ₂ 24 27 ¹ / ₂ 31 34 ¹ / ₂	Short C. to F. Lateral . K 21/2 21/2 3 3 3 1/2 4 5 5 1/2 6 6 1/2 7 1/2	Face to Face Reducer 5 5 5 2 6 6 2 7 8 9 11 12 14 16 18	Raised Face M 35/8 41/8 5 51/2 63/6 75/6 81/2 105/8 123/4 15 161/4 181/2	Height of Raised Face 1/16 1/16 1/16 1/16 1/16 1/16 1/16 1/	Center to Face of Long Radius Ell 61/2 7 73/4 81/2 9 101/4 111/2 14 161/2 19 211/2 24
2 2	0	19 23	11/16 13/16	24 24 24	$\frac{11}{4}$ $\frac{13}{8}$ $\frac{15}{8}$	24% 27 32	$ \begin{array}{c} 28 \\ 30 \frac{1}{2} \\ 36 \end{array} $	$\frac{21/2}{23/4}$	$19\frac{1}{2}$ $22\frac{1}{2}$	$ \begin{array}{c} 10 \\ 10 \frac{1}{2} \\ 12 \end{array} $	$37\frac{1}{2}$ $40\frac{1}{2}$ $47\frac{1}{2}$	8 8½ 10	19 20 24	21 23 27 ¹ ⁄ ₄	116 116 116 116	$ \begin{array}{c} 26\frac{1}{2} \\ 29 \\ 34 \end{array} $
								Speci	al Sizes					, -	, 10	
	4 ¹ / ₂	$\frac{41/2}{7}$	5/16 13/32	8 12	3/4 7/8	$8\frac{1}{2}$ $11\frac{7}{8}$	$10\frac{1}{2}$ 14	$1\frac{5}{16}$ $1\frac{1}{2}$	7½ 9	$\frac{4\frac{1}{2}}{6}$	$\frac{14\frac{1}{2}}{19}$	$\frac{3\frac{1}{2}}{4\frac{1}{2}}$	$\frac{7\frac{1}{2}}{10}$	$\frac{63}{4}$ $\frac{95}{8}$	1/16 1/16	$9\frac{1}{2}$ $12\frac{3}{4}$
															100000000000000000000000000000000000000	

Finished Dimensions for 400 Pounds Steam Working Pressure

					-				D				Killy	rressu	re				
Size of Fitting Inches 4 5 6 8 10 12 14 16 18 20 24	Inside Diam. of Fitting A 4 5 6 8 10 12 1318 15 17 1878 2225 8	Min- imum Thick. of Shell B 3/8 7/16 9/16 11/16 3/4 13/16 7/8 11/16 11/16 11/16	No. of Bolts C 8 8 12 12 16 16 20 24 24 24	Diam. of Bolts D 7/88 7/8 1 11/8 11/4 11/4 11/4 11/4 11/4 11/4	Diam. of Bolt Circle E 77.8 91.4 10.5 8 13 15.1 4 17.3 4 20.1 4 22.4 24.3 27 32	Diam. of Flange F 10 11 12½ 25 15 17½ 23 25½ 28 30½ 36	Min- imum Thick, of Flange G 13/8 11/2 15/8 21/4 23/8 21/4 23/8 21/2 25/8 23/4	and Cross H 734 834 912 1112 13 1434 16 1712 19 2012	Center to Face of e Elbow, Tee and Cross h 8 9 9344 11344 15 1614 17344 19944 20944	45° Elbow 1 51/4 53/4 6 61/2 71/2 81/2 9 10 101/2 11	Center to Face 45° Elbow i 51/2 6 61/4 63/4 73/4 83/4 91/4 103/4 111/4	Long Basic C. to F. E. Lateral J 15 16½ 217½ 22 25½ 29½ 36 39 42½	Long Center to Face Lateral j 1514 1634 17734 22214 2534 2934 3234 3614 3914 4234	Short Basic C. to F. E. Lateral K 41/4 43/4 5 51/2 6 61/4 63/4 73/4 83/4 83/4	Short Center to Face Lateral k 4½ 5 5¼ 4 6½ 7 8 8½ 9	Basic F. E. to F. E. Reducer L 73/4 83/4 91/2 111/2 13 143/4 16 18 19 201/2	to Face	Diam. of Raised Face M 63/6 75/6 81/2 105/8 123/4 15 161/4 181/2 21 23	Ht. of Male Face N 1/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4
		-> 10		-/4	02	30	3	24	24 ¹ / ₄ Specia	$12\frac{1}{2}$	$12\frac{3}{4}$	50	$50\frac{1}{4}$	$10\frac{1}{4}$	10	24	$24\frac{1}{2}$	$27\frac{1}{4}$	1/4
11/4 41/2 7 * 1/2 * 3/4 *1 *1-1/2 *2 *2 *21/2 *3 *31/2 Non	11/4 41/2 7 1/2 3/4 1 11/2 2 21/2 3 31/2 TE.—Di	1/4 7/16 1/2 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	4 8 12 4 4 4 4 8 8 8 8 8 r of l	5/8 7/8 1 1/2 5/8 3/4 7/8 polt h	37/8 81/2 117/8 25/8 31/4 31/2 41/2 5 57/8 65/8 71/4 ole is 1	51/4 101/2 14 33/4 45/8 61/2 71/2 81/4 9	13/16 17/16 13/4 9/16 5/8 11/16 7/8 1 11/8 11/4 13/8	4 ¹ / ₄ 8 ¹ / ₄ 10 ¹ / ₂ 3 3 ¹ / ₂ 4 4 ¹ / ₂ 5 ¹ / ₂ 6 ³ / ₄ 7 ¹ / ₄ than 1	4 ¹ / ₂ 8 ¹ / ₂ 10 ³ / ₄ 3 ¹ / ₄ 3 ³ / ₄ 4 ¹ / ₄ 4 ³ / ₄ 5 ³ / ₄ 6 ¹ / ₂ 7 7 ¹ / ₂ poolt dia	2½ 5½ 6½ 1¾ 2 2 2¾ 4 4¼ 4¾ 4¾ 4¾	$2\frac{3}{4}$ $5\frac{3}{4}$ $6\frac{3}{4}$ 2 $2\frac{1}{4}$ $2\frac{1}{4}$ 3 $4\frac{1}{4}$ $4\frac{1}{2}$ $5\frac{1}{2}$	$7\frac{1}{4}$ 16 $20\frac{1}{2}$ $5\frac{1}{4}$ $5\frac{3}{4}$ $6\frac{1}{2}$ $8\frac{1}{2}$ $10\frac{3}{4}$ $12\frac{1}{4}$ $13\frac{1}{4}$	$7\frac{1}{2}$ $16\frac{1}{4}$ $20\frac{3}{4}$ $5\frac{1}{2}$ 6 $6\frac{3}{4}$ $8\frac{3}{4}$ 11 $12\frac{1}{2}$ $13\frac{1}{2}$ $14\frac{1}{2}$	$2^{1}4$ $4^{1}/2$ $5^{1}/4$ $1^{1}/2$ $1^{3}/4$ 2 $2^{1}/2$ $3^{1}/4$ $3^{1}/4$ $4^{1}/4$	$2^{1/2}$ $4^{3/4}$ $5^{1/2}$ $1^{3/4}$ $2^{1/4}$ $2^{1/4}$ $2^{1/4}$ $2^{1/4}$ $2^{1/2}$ $3^{1/2}$ $4^{1/2}$	$\begin{array}{c} 4\frac{1}{2} \\ 8\frac{1}{4} \\ 10\frac{1}{2} \\ 4\frac{1}{2} \\ 4\frac{1}{2} \\ 4\frac{1}{2} \\ 4\frac{1}{2} \\ 6\frac{1}{4} \\ 6\frac{3}{4} \\ 7\frac{1}{4} \end{array}$	5 8 ³ ⁄ ₄ 11 5 5 5 6 6 ³ ⁄ ₄ 7 ¹ ⁄ ₄ 7 ³ ⁄ ₄	$2\frac{1}{2}$ $6\frac{3}{4}$ $9\frac{5}{8}$ $1\frac{3}{8}$ $1\frac{11}{16}$ 2 $2\frac{7}{8}$ $3\frac{5}{8}$ $4\frac{1}{8}$ 5 $5\frac{1}{2}$	1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4

Note.—Diameter of bolt hole is ½ inch larger than bolt diameter.

*When these sizes are required use 600 pounds steam working pressure fittings; which are the same as shown, as to flange, thickness and diameter, bolting, and center to face dimensions.

Walworth Sigma Steel Flanged Fittings

Tentative American Standard

Continued

Finished Dimensions for 600 Pounds Steam Working Pressure

		Min-					Min-	Basic	—— Оіме	nsions,]	NCHES—								
Size of Fitting Inches	Inside Diam. of Fitting	imum Thick. of Shell B	No. of Bolts	Diam. of Bolts	Diam. of Bolt Circle E	Diam. of Flange	imum Thick. of Flange	C. to F. E. of	Face of Elbow, Tee	Basic C. to F. E. 45° Elbow	to Face	Long Basic C. to F. E. Lateral	Long Center to Face Lateral	Short Basic C. to F. E. Lateral	Short Center to Face Lateral	Basic F. E. to F. E. Reducer	Face to Face Reducer	Diam. I of Raised I Face	of
1/2 3/4 1 11/2 2 21/2 3 31/2 4 5 6 8	1/2 3/4 1 11/2 2 21/2 3 31/2 4 5 6 77/8	1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	4 4 4 8 8 8 8 8 8 8 12 12	1/2 5/8 5/8 3/4 5/8 3/4 7/8 1 1 1/8	25/8 $31/4$ $31/2$ $41/2$ 5 $57/8$ $65/8$ $71/4$ $81/2$ $101/2$ $111/2$ $133/4$	$3\frac{3}{4}$ $4\frac{5}{8}$ $4\frac{7}{8}$ $6\frac{1}{8}$ $6\frac{1}{2}$ $7\frac{1}{2}$ $8\frac{1}{4}$ 9 $10\frac{3}{4}$ 13 14 $16\frac{1}{2}$	916 55/8 11/16 7/8 1 11/8 11/4 13/8 11/2 13/4 17/8 23/16	3 $3^{1/2}$ 4 $4^{1/2}$ $5^{1/2}$ $6^{1/4}$ $6^{3/4}$ $7^{1/4}$ $8^{1/4}$ $9^{3/4}$ $10^{3/4}$ $12^{3/4}$	31/4 33/4 41/4 43/4 53/4 61/2 7 71/2 81/2 10 11 13	$1\frac{3}{4}$ 2 2 $2\frac{3}{4}$ $4\frac{1}{4}$ $4\frac{3}{4}$ $5\frac{1}{4}$ $6\frac{3}{4}$ $7\frac{1}{4}$ $8\frac{1}{4}$	2 2 ¹ / ₄ 2 ¹ / ₄ 3 4 ¹ / ₄ 4 ¹ / ₂ 5 5 ¹ / ₂ 6 7 7 ¹ / ₂ 8 ¹ / ₂	$5\frac{1}{4}$ $5\frac{3}{4}$ $6\frac{1}{2}$ $8\frac{1}{2}$ $10\frac{3}{4}$ $12\frac{1}{4}$ $13\frac{1}{4}$ $14\frac{1}{4}$ $16\frac{1}{4}$ $19\frac{1}{4}$ $20\frac{3}{4}$ $24\frac{1}{4}$	51/2 6 63/4 83/4 11 121/2 131/2 141/2 161/2 191/2 21 241/2	1½ 1¾ 2 2½ 3¼ 3¼ 4¼ 4¼ 6¼ 6¾ 6¾	13/4 2 21/4 23/4 31/2 31/2 4 41/2 41/2 6 61/2 7	4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂ 4 ¹ / ₂ 5 ¹ / ₂ 6 ³ / ₄ 6 ³ / ₄ 7 ¹ / ₄ 8 ¹ / ₄ 9 ³ / ₄ 10 ³ / ₄ 12 ³ / ₄	5 5 5 5 5 6 6 ³ / ₄ 7 ³ / ₄ 7 ³ / ₄ 10 ¹ / ₄ 11 ¹ / ₄ 13 ¹ / ₄	$1\frac{3}{8}$ 1^{11} 16 2 $27/8$ $35/8$ $41/8$ $51/2$ $63/6$ $75/6$ $81/2$ $105/8$	14 14 14 14 14 14 14 14 14 14 14 14 14 1
10 12 14	$9\frac{3}{4}$ $11\frac{3}{4}$ $12\frac{7}{8}$	7/8 1 11/8	16 20 20	$1\frac{1}{4}$ $1\frac{1}{4}$ $1\frac{3}{8}$	17 $19\frac{1}{4}$ $20\frac{3}{4}$	20 22 23¾	$2\frac{1}{2}$ $2\frac{5}{8}$ $2\frac{3}{4}$	$15\frac{1}{4}$ $16\frac{1}{4}$ $17\frac{1}{4}$	$15\frac{1}{2}$ $16\frac{1}{2}$ $17\frac{1}{2}$	$9\frac{1}{4}$ $9\frac{3}{4}$ $10\frac{1}{2}$	$9\frac{1}{2}$ 10 $10\frac{3}{4}$	$29\frac{1}{4}$ $31\frac{1}{4}$ 34	$29\frac{1}{2}$ $31\frac{1}{2}$ $34\frac{1}{4}$	$7\frac{3}{4}$ $8\frac{1}{4}$ $8\frac{3}{4}$	8 8½ 9	$15\frac{1}{4}$ $16\frac{1}{4}$ $17\frac{1}{4}$	$15\frac{3}{4}$ $16\frac{3}{4}$ $17\frac{3}{4}$	$12\frac{3}{4}$ 15 $16\frac{1}{4}$	1/4 1/4 1/4
16 18 20 24	$14\frac{3}{4}$ $16\frac{1}{2}$ $18\frac{1}{4}$ 22	$1\frac{1}{4}$ $1\frac{3}{8}$ $1\frac{1}{2}$ $1\frac{3}{4}$	20 20 24 24	$1\frac{1}{2}$ $1\frac{5}{8}$ $1\frac{5}{8}$ $1\frac{7}{8}$	$23\frac{3}{4}$ $25\frac{3}{4}$ $28\frac{1}{2}$ 33	27 29¼ 32 37	$ \begin{array}{c} 3 \\ 3 \\ 4 \\ 3 \\ 4 \end{array} $	191/4	19½	11½	113/4	381/4	38½	93/4	10	19¼	19¾	$18\frac{1}{2}$ 21 23 $27\frac{3}{4}$	1/4 1/4 1/4 1/4
									Specia	I Sizes									
1½ 4½ 7	$\frac{1\frac{1}{4}}{4\frac{1}{2}}$ $\frac{67}{8}$	1/4 1/2 11/16	4 8 12	5/8 1 11/8	$3\frac{7}{8}$ $9\frac{1}{4}$ $12\frac{1}{2}$	51/4 111/2 15	13/16 $15/8$ $21/16$	$ \begin{array}{r} 4\frac{1}{4} \\ 8\frac{3}{4} \\ 11\frac{3}{4} \end{array} $	$ \begin{array}{c} 4\frac{1}{2} \\ 9 \\ 12 \end{array} $	$ \begin{array}{c} 2\frac{1}{2} \\ 6\frac{1}{4} \\ 7\frac{3}{4} \end{array} $	$\frac{23/4}{61/2}$ 8	$7\frac{1}{4}$ $17\frac{1}{4}$ $22\frac{1}{4}$	$7\frac{1}{2}$ $17\frac{1}{2}$ $22\frac{1}{2}$	$ \begin{array}{c} 2\frac{1}{4} \\ 5\frac{1}{4} \\ 6\frac{1}{4} \end{array} $	$2\frac{1}{2}$ $5\frac{1}{2}$ $6\frac{1}{2}$	$ \begin{array}{r} 4\frac{1}{2} \\ 8\frac{3}{4} \\ 11\frac{3}{4} \end{array} $	5 9½ 12½	$2\frac{1}{2}$ $6\frac{3}{4}$ $9\frac{5}{8}$	1/4 1/4 1/4

Finished Dimensions for 900 Pounds Steam Working Pressure

							-	-	——— DIME	NSIONS,	INCHES-	-				NE THE R	7 1		
Size of Fitting	Inside Diam. of Fitting	Min- imum Thick of Shell	No. of Bolts	Diam. of Bolts	Diam. of Bolt Circle	Diam. of Flange	Min- imum Thick. of Flange	Basic C. to F E. of Elbow, Tee and Cross	Center to Face of Elbow, Tee	Basic C	Center	Long Basic C. to F. E. Lateral	Long C. to F. Lateral	to F. E.	Short C. to F.	Basic F. E. to F. E.	Face to Face	Diam. E of Raised E	of Raised
Inches	A	B	C	D	E	F	G	H	h	LIDOW	LIDOW	EJ	Lateral	Lateral	Lateral	Reducer	Reducer	Face	Face
1	5/8		4	3/	4	57/8	1	43/4	5	31/4	31/2	83/4	9	21/4	2/4/10/27	41/			/ 50
11/2	11/8	5/2	4	7%	47/8	7	11/8	53/4	6	4	41/4	103/4	11	31/4	21/2	41/2	5	2	1/4
2	115/16	3/0	8	3/	57/8	71/2	11/4	614	61/2	41/4	41/2	121/4	121/2		$\frac{31}{2}$	53/4	61/4	27/8	14
21/2	23/8	7/6	8	7%	61/2	81/2	13/8	63/4	7	43/4	5	131/4	$13\frac{1}{2}$	$\frac{3\frac{1}{4}}{3\frac{3}{4}}$	$\frac{31/2}{4}$	61/4	63/4	35/8	14
3	215/16	1/2	8	3/4 7/8 3/4/8 7/8 7/8	71/2	91/2	11/2	71/	71/6	514	51/2	141/4	$14\frac{1}{2}$			63/4	71/4	4½ 5	1/4 1/4 1/4 1/4 1/4
31/2	33/8	9/10	8	1	81/2	1034	15/8	7½ 8½ 8½	$7\frac{1}{2}$ $8\frac{1}{2}$	53/4	6	1614	161/2	4½ 4½	$\frac{4\frac{1}{2}}{4\frac{1}{2}}$	7½ 8½	73/4		14
4	313/16	1/4 5/16 3/8 7/16 1/2 9/16 5/8 3/4	8	11/8	914	111/2	134	83/4	9	61/4	61/2	1714	171/2	514	$5\frac{1}{2}$	83/4	83/4	51/2	14
5	43/4	3/4	8	11/4	11	133/4	2	103/4	11	71/4	71/2	2034	21	614	$6\frac{1}{2}$	103/4	$9\frac{1}{4}$ $11\frac{1}{4}$	63/16	1/4
6	53/4	13/16	12	11/8	121/2	15	23/16	1134	12	73/4	8	2214	221/2	614	61/2	1134	121/4	$7\frac{5}{16}$ $8\frac{1}{2}$	14
8	79/16	11/16	12	13/8	151/2	181/2	21/2	141/4	141/2	83/4	9	2714	271/2	71/4	71/2	1414	143/4	105/8	1/4
								ALC: NEW YORK							./2	11/4	11/4	1078	74
10	97/16	11/4	16	13/8	181/2	211/2	23/4	161/4	161/2	93/4	10	311/4	$31\frac{1}{2}$	81/4	81/2	161/4	163/4	123/4	1/4
12	111/4	17/16	20	13/8	21	24	31/8	183/4	19	103/4	11	341/4	$34\frac{1}{2}$	83/4	9	171/4	173/4	15	1/4
14	$12\frac{3}{8}$	1%	20	$1\frac{1}{2}$	22	$25\frac{1}{4}$	33/8	20	$20\frac{1}{4}$	111/4	111/2	$36\frac{1}{4}$	$36\frac{1}{2}$	$9\frac{1}{4}$	91/2	181/2	19	161/4	1/4
16	143/16	113/16	20	15/8	241/4	273/4	31/2	22	221/4	121/4	121/2	401/2	403/4	101/4	101/	201/	01	101/	1/
18	153/4	2	20	17/8	27	31	4		22/4	1474	1472	4072	40%	10/4	$10\frac{1}{2}$	$20\frac{1}{2}$	21	181/2	14
20	171/2	21/4	20	21/4	291/2	333/4	41/4				1							21	14
24	21	25/8	20	21/2	351/2	41	51/2											23	14
		-/0		-/4	/ 4		-/ 4											$27\frac{3}{4}$	/4
							ALL T.		Specia	al Sizes	165 48								
11/4	15/16	1/4	4	3/4	43/8	61/4	11/8	51/4	51/2	33/4	4	93/4	10	23/4	3	51/4	53/4	$2\frac{1}{2}$	1/
41/2	41/4	1/4 11/16	8	11/8	101/2	13	17/8	93/4	10	63/4	7	1914	191/2	534	6	93/4	1014	63/4	1/4
7	65/8	15/16	12	11/4	133/4	161/2	23/8	123/4	13	81/4	81/2	241/4	241/2	63/4	7	1234	131/4	95/8	1/4
		A CONTRACTOR			1 1000 20	100000	The second			-	-	, -	, 4	-/-	I Carlo	/4	-0/4	0/8	/4

Note.—Diameter of bolt hole is 1/8 inch larger than bolt diameter.

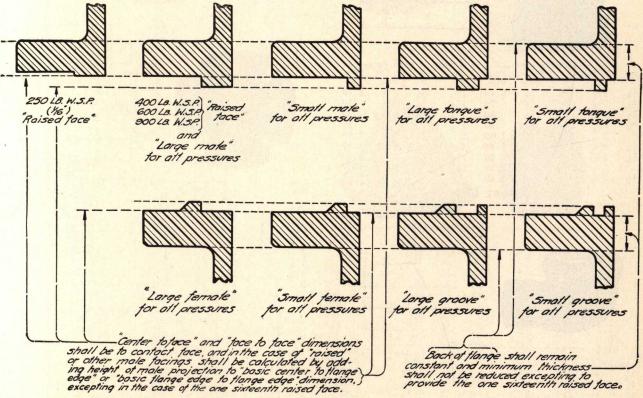
The "American Standard" for steel pipe flanges and flange fittings for 250, 400, 600, and 900 lbs. working steam pressures at 750° F. is now in tentative form, and the development of the 1350 lbs. flanges and flange fittings is under way. This standard is being developed under the procedure of the American Engineering Standards Committee, and will be issued as a definite "American Standard" as soon as the sponsor organizations have agreed on the written text to accompany the tables of dimensions of the standard and after sufficient time has been allowed for full discussion and criticism,

The Walworth Company is presenting the tables of dimensions from the "Tentative American Standard" as interpreted in the standard practice resolutions of the Manufacturers Standardization Society of the Valve and Fittings Industry for the purpose of assisting in giving publicity to this "Tentative American Standard," and to promote the use of the standard forms of fittings and the standard dimensions wherever possible. While it has not as yet been definitely adopted as an "American Standard" and is subject to change prior to such adoption, the tables of dimensions have been tentatively agreed upon by the sponsor organizations, and the prospect of any changes in them is remote.

Walworth Sigma Steel Flanged Fittings

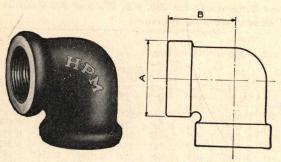
2	II Tongue Groove for Pressures	Fla	nge Fa	acing F	inished	Dime	nsions	for 250, Pressu	400, 60	00 and	900 P	ounds	
	Small T and Gre All Pre					O. D. of Large Tongue	-DIMENSI	ons, Inches	ires				
2	for	Size o Fittin Inche	g Tongue	I. D. of Large and Smal Groove	Tongue	Large Male and 1/16" Raised Face	O. D. of Small Groove	and O.D. of Large Female	and Male	Depth of Groove and Female	O. D. of Small Male	O. D. of Small Female	
۵	Large Tong and Groove All Pressur	1/2 3/4 1	1.000 1.313 1.500	$1.250 \\ 1.438$	1.875	$1.688 \\ 2.000$	1.438 1.750 1.938	1.438 1.750 2.063	.250 .250 .250	.188 .188	.719 .938 1.188	.781 1.000 1.250	
7		$1\frac{1}{4}$ $1\frac{1}{2}$ 2 $2\frac{1}{2}$	1.875 2.125 2.875 3.375	1.813 2.063 2.813 3.313	2.250 2.500 3.250 3.750	2.500 2.875 3.625 4.125	2.313 2.563 3.313 3.813	2.563 2.938 3.688 4.188	.250 .250 .250 .250	.188 .188 .188	1.500 1.750 2.250 2.688	1.563 1.813 2.313 2.750	
۵	Small Male and Female for All Pressures	3 3½ 4 5	4.250 4.750 5.188 6.313	4.188 4.688 5.125 6.250	4.625 5.125 5.688 6.813	5.000 5.500 6.188 7.313	4.688 5.188 5.750 6.875	5.063 5.563 6.250 7.375	.250 .250 .250 .250	.188 .188 .188	3.313 3.813 4.313 5.375	3.375 3.875 4.375 5.438	
	p. s	6 8 10 12	7.500 9.375 11.250 13.500	7.438 9.313 11.188 13.438	8.000 10.000 12.000 14.250	8.500 10.625 12.750 15.000	8.063 10.063 12.063 14.313	8.563 10.688 12.813 15.063	.250 .250 .250 .250	.188 .188 .188	$6.375 \\ 8.375 \\ 10.500$	6.438 8.438 10.563	
	Male formale f	14 16 18		14.688	15.500	16.250 18.500 21.000	15.563 17.688	16.313 18.563	.250	.188		12.563 13.813 15.813	
	۳ م	20 24	21.000 25.250	20.938 25.188	22.000 26.250	23.000 27.250	20.188 22.063 26.313 special S	27.313 izes	. 250 . 250 . 250	.188 .188	19.750 23.750	17.813 19.813 23.813	
	e, 250 Lbs.	4 ¹ / ₂ 7 9 15	5.750 8.375 10.375 15.750		6.250 9.000 11.000 16.500		6.313 9.063 11.063 16.563	6.813 9.688 11.688 17.313	.250 .250 .250 .250	.188 .188 .188	4.813 7.375 9.375 14.750	4.875 7.438 9.438 14.813	
1	Face, S. W.	Ba	23.250 cks of fl	23.188 langes s			24.313	25.313	.250		21.750	21.813	

Method of Obtaining Center to Face Finished Dimensions for 250, 400, 600 and 900 Pounds Steam Working Pressures

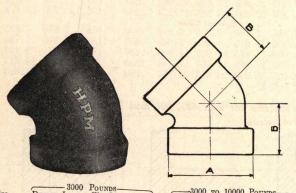


Note. -1/6-inch raised face is standard for 250-pound valves and fittings. 1/4-inch raised face is standard for 400, 600 and 900-pound valves and fittings. All other facings are considered as special.





a.	-	-3000	Pounds			3000 то	10000 POUNI	ns ——
Size	DIME	N., IN.	Wt., Lbs.	Price		N., IN.	Wt., Lbs.	Price
In.	A.	В	Each	Each	A	В	Each	Each
1/4 3/8 1/2 3/4	13/8	11/8	1/2	\$.55	13/8	11/8	1/2	\$.55
3/8	13/8	11/8	1/2	.55	13/8	11/8	1/2	.55
1/2	11/2	11/4	5/8	.65	11/2	11/4	5/8	.65
3/4	13/4	11/2	1	.75	13/4	11/2	1	.75
11/	2	13/4	11/4	.90	2	13/4	11/4	.90
1½ 1½	$\frac{23}{8}$ $2\frac{3}{4}$	2	2	1.20	23/4	21/4	31/4	1.50
11/2	23/4	21/4	21/2	1.50	31/4	21/2	61/4	1.90
2 21/2	31/4	$2\frac{1}{2}$	4	1.90	37/8	27/8	101/2	2.90
3	37/8	27/8	71/4	2.90	41/2	33/8	14	5.00
3	$4\frac{1}{2}$	33/8	11	5.00				
			4	5° EI	ls			

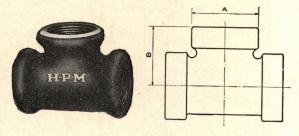


Size	DIMEN	IIN	Wt., Lbs.	D.			0000 Pour	TDS-
In.	A	В	Eb		DIMEN	, IN.	Wt., Lbs.	Price
	101		Each	Each	A	В	Each	Each
1/4 3/8 1/2	13/8	13/16	1/2	\$.70	13/8	13/16	1/	
3/0	13/8	13/16	1/			716	1/2	\$.70
10	71/	716	/2	.70	13/8	13/16	1/2	.70
7/2	1/2	7/8	1/2	.80	11/2	7/8	12	.80
3/4	13/4	1	3/4	.90		1/8	22	
1	2	13/	1/4		13/4	1	%	.90
11/	- To	13/16	1	1.10	2	13/6	1	1.10
11/4	23/8	111/32	11/2	1.45	23/4		21/	
11/2	23/	176	2		4/4	17/16	31/4	1.80
	/ 1	1 16		1.80	31/4	123/32	5	2.30
2	$3\frac{1}{4}$	123/32	3	2.30	37/8	21/16	8	3.50
21/2	37/8	21/16	51/2	3.50	0/8	2/16	0	3.30
	-/0	-/10	0/2	3.30				

Street Ells

	10000 Pounds										
Size	D	IMENSIONS, INCH	HES-	Wt., Lbs.	Price						
Inches	A	В	C .	Each	Each						
1/4	11/16	7/8	1½	1/2	\$.75						
3/8	13/8	11/8	15/8	1/2	.85						
1/2	11/2	11/4	13/4	1/2	.85						
3/4	1%	11/2	21/8	3/4	1.05						
1	2	13/4	$2\frac{1}{2}$	11/4	1.40						

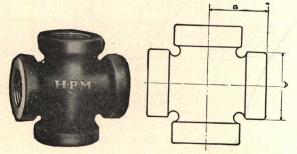
H-P-M Forgsteel Fittings Tees



Size									
In.	A DIMEN.	, IN. B	Wt., Lbs. Each	Price Each					
3/8	$\frac{13}{8}$ $\frac{13}{8}$	11/8	3/4	\$.80					
1/2 3/2	11/2	114	3/4 3/4	\$.80 .80 .95					
1	2	11/2	11/4	1.10					
11/4	23/8	2	21/4	1.35 1.75					
2	31/4	$\frac{2\frac{1}{4}}{2\frac{1}{2}}$	35/8	2.30					
2½ 3	378	27/8	91/2	2.90 4.40					
3	41/2	33/8	12	7.50					

Size	—————————————————————————————————————									
In.	A DIM	en., In. B	Wt., Lbs. Each	Price Each						
3/2	13/8	11/8	3/4	\$.80						
1/2	11/2	11/8	3/4 3/	\$.80 .80 .95						
3/4	13/4	11/2	11/4	1.10						
11/4	2	13/4	13/4	1.35						
11/2	31/4	21/4	35/8	2.30						
2 2½	37/8	27/8	91/2	2.90 4.40						
21/2	$4\frac{1}{2}$	33/8	12	7.50						

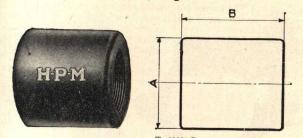
Crosses



CI.		300	O Pounds	
Size In.	A DIME	N., INB	Wt., Lbs.	Price
	19/		Each	Each
1/4 3/8	13/8	11/8	1	\$1.10
1/8	13/8	11/8	1	1.10
1/2	11/2	11/4	1	1.30
- 1/4	13/4	$1\frac{1}{2}$	$1\frac{1}{2}$	1.50
11/	2	13/4	$\frac{2}{3}$	1.90
11/4	23/8	2		2.80
1 1/2	23/4	$2\frac{1}{4}$	5	3.50
2	31/4	$2\frac{1}{2}$	6	5.00
21/2	37/8	$2\frac{7}{8}$	11	7.30
-		3000 то 1	0000 Pounds	
Size In.		N., IN.——	Wt., Lbs.	Price
III.	A	В	Each	Each
1/4	13/8	11/8	1	\$1.10
3/0	13/	11/	4	The state of the s

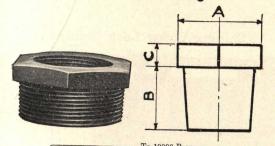
1	-0000 10	TOUGO FOUNDS	
A	EN., IN.	Wt., Lbs. Each	Price Each
13/8	11/8	1	\$1.10
11/8	11/8	1	1.30
134	11/2	11/2	1.50 1.90
2	134	2 2	2.80
23/4	$\frac{21}{4}$	9	3.50
37/6	27/2	$\begin{array}{c} 10 \\ 15 \end{array}$	5.00
-/0	-/8	10	7.30

H-P-M Forgsteel Fittings Couplings



Size	DIMENSIONS, INCHES Wt. Lbs Price						
Inches	DIMENS	ONS, INCHES	Wt., Lbs.	Price			
1/	A	В	Each	Each			
3/4	11/	15/16	1/4	\$.90			
1/8	11/8	13/8	3/8	.90			
3/4	13/8	13/4	5/8	.90			
1 74	13/4	2	1	1.00			
11/4	21/	21/4	$1\frac{1}{2}$	1.30			
11/2	23/	2/2	$\frac{23}{4}$	1.60			
2'2	31/	21/8	31/2	1.95			
21/2	41/	3	41/2	2.60			
- 14	1/4	$3\frac{1}{2}$	11	3.60			

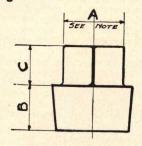
Reducing Bushings



Size	-		To 10000 Pot	UNDS —	
Inches	D	IMENSIONS, INCE	HES-	Wt., Lbs.	Price
	A	В	C	Each	Each
1/2	7/8	7/6	1/	1/	
3/4	11/0	7%	54	78	\$.70
1 14	13/	118	/16	1/4	.70
11/	128	1/8	3/8	1/2	.75
11/4	1%	11/8	1/2	5/8	1.00
1 1/2	2	11/4	9/16	. 1	1.25
2	$\frac{21}{2}$	11/4	5/8	21/2	2.00
21/2	3	113/16	11/16	3	7.50
3	$3\frac{3}{4}$	2	7/8	5	12.00

Plugs





~		T	o 10000 Pouni	os —	
Size Inches		DIMENSIONS, INCI	HES-G	Wt., Lbs.	Price Each
1/	A	ь	C	Each	Each
3/4	3/16	5/8	3/8	1/8	\$.35
1/8	16	1/2	/16	1/8	.35
1/2	1/2	%	1/2	1/8	.35
3/4	3/8	11/16	9/16	1/4	.45
1	13/16	13/16	11/16	1/2	.50
11/4	1 16	7/8	3/4	3/4	.75
11/2	1/4	7/8	3/4	1	1.10
2	15/8	1	7/8	2	2.25
2½ 3	2	13/8	11/8	33/4	4.50
	$2\frac{3}{8}$	17/16	11/4	53/	7.50
A, dis	stance acros	ss flats.	Page All mark	4	

H-P-M Forgsteel Flanged Unions

For Hydraulic Pressure Up to 3000 Pounds



No. 1803, Two-Bolt



No. 1805, Four-Bolt

No. 1803 1803 1803	Size In. 1/4 3/8 1/2	No. 2 2 2 2	—Bolts—Diam, In. 3/4 3/4 3/4	Lgth. In. 23/4 23/4 23/4	Outside Flange In. 41/8 41/8 41/8	Bolt Circle In. 2½2 2½2 2½2	Wt., Lbs. Each 3 ⁴ / ₅ 3 ⁴ / ₅ 3 ⁴ / ₅	Price Each \$2.00 2.00
1803 1803 1805	$\frac{3}{4}$ $\frac{1}{1\frac{1}{4}}$	2 2 4	1 1 1	$\frac{3\frac{1}{4}}{3\frac{1}{4}}$ $\frac{3\frac{1}{4}}{3\frac{3}{4}}$	$5\frac{1}{2}$ $5\frac{1}{2}$ $6\frac{3}{8}$	$\frac{3\frac{3}{8}}{3\frac{3}{8}}$ $\frac{4\frac{3}{8}}{4}$	$8\frac{1}{2}$ $8\frac{1}{2}$ $16\frac{1}{2}$	3.00 3.00 4.75
1805 1805 1805	$\frac{1\frac{1}{2}}{2}$ $\frac{2^{1}/2}{2}$	4 4 4	$1 \\ 1\frac{1}{4} \\ 1\frac{1}{2}$	$\frac{3\frac{3}{4}}{4}$ $\frac{4}{4\frac{1}{2}}$	$6\frac{3}{8}$ $7\frac{13}{16}$ $8\frac{13}{16}$	$4\frac{3}{8}$ $5\frac{5}{16}$ $6\frac{1}{16}$	$\frac{16\frac{1}{2}}{27}$ $\frac{50}{10}$	4.75 8.00 17.00

H-P-M Forgsteel Flange Unions

For Hydraulic Pressure, 3000 to 10000 Pounds



No. 1803, Two-Bolt



No. 1085, Four-Bolt



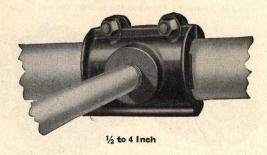
No. 1804, Three-Bolt



No. 1087, Round

		-	-Bolts		Outside	Bolt		
	Size		Diam.	Lgth.	Flange	Circle	Wt., Lbs.	Price
No.	In.	No.	In.	In.	In.	In.	Each	Each
1803	1/4	2	3/4	23/4	41/8	21/2	34/5	\$2.00
1803	3/8	2	3/4	234	41/8	21/2	34/5	2.00
1803	1/2	2 2 3	3/4	234		21/2		
1804	3/	5	74	2/4		$2\frac{1}{2}$	$3\frac{4}{5}$	2.00
	3/4	3	7/8	31/2	$5\frac{1}{4}$	31/2	10	3.75
1804	1	3	11/8	4	61/8	41/8	18	4.75
1086	11/4	4	11/4	4	7	45/8	23	5.75
1086	11/2	4	11/4	4	7	45/8		
1086	2		11/4			4/8	23	6.25
		4	11/2	41/4	81/4	51/2	30	9.00
1087	21/2	6	11/4	43/4	81/4	6	45	17.00
1087	3	6	13/8	43/4	9	61/2	56	21.00
1087	31/2	6	11/2	534	101/4	71/2	62	
1087	4	8		0/4		1/2		27.00
			13/8	6	11	83/8	85	31.50
1087	41/2	8	11/2	61/2	111/2	83/4	103	42.00
1087	5	8	15/8	7	123/4	10	137	54.00
1087	6	8	13/4	71/4	15			
		0	1/4	1/4	10	111/2	230	80.00

Skinner Pipe Saddles



The Skinner Pipe Saddle has the rigidity of a tee fitting with none of the expense or trouble of installing. As it is cylinder-shaped it gives even firm support all the way around and strengthens rather than weakens the pipe. Cannot shear or crush old pipe.

Made of malleable iron which has a high tensile strength, resists pipe-destroying soil conditions and can be sledged when fitting uneven pipe. The outlet boss is built up for ample threads, to secure a lasting joint.

Long bolts and raised lugs combined with the fact that saddle has draw bolts on one side only, full length hinge on the other insure a simple installation under the most awkward conditions. The Skinner Pipe Saddle is reinforced to accommodate tremendous pressures if necessary, such as oil, gas and high pressure water work.



In ordering, be sure to specify what size saddles are to be tapped. The popular large sizes are made in two lengths, for small and large outlets. Sizes above 4 inches have extra reinforcements. All saddles painted with a hard paint to resist rust.

1 Coiou I u	.50.				
Size	Tapped	Length	No.		
Pipe Inches	for pipe Inches	Over All Inches	of Bolts	Weight	Price
				Pounds	Each
1/ ₂ 3/ ₄	$\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{4}$ $\frac{1}{2}$	31/4	2	1	\$.75
3/4	1/4-1/2	31/4	2	11/4	.80
1	1/4- 3/4	31/2	2	11/2	.95
11/4	1/4-1	33/4	2	13/4	1.05
1½ 1½	1/4-1	4	2	21/2	1.30
2	3/4-11/4	41/4	2	31/	1.70
21/2	3/4-11/2	$\frac{4\frac{1}{4}}{4\frac{1}{2}}$	2	$ \begin{array}{c} 1\frac{1}{2} \\ 1\frac{3}{4} \\ 2\frac{1}{2} \\ 3\frac{1}{4} \\ 3\frac{3}{4} \end{array} $	2.25
3	3/1-2	5	2	51/2	2.75
31/2	$\frac{3}{4} - 2$ $\frac{3}{4} - 2$	51/2	2	6	3.25
4'2	$3\frac{4}{4} - 2$	6	2	8	4.00
4 41/2	3/-9	61/2	5	101/2	4.00
5/2	3/_2	7	2	101/2	5.60
6	$\frac{74-2}{34-2}$		9	121/2	6.75
5 6 6	3 -4	6 8 9 6	2	14	7.50
6		8	3	18 24	9.50
7	3/4-4	9	3	24	12.00
8	3/4-2	6	2	22	11.50
8 8 9	3 -4	91/2	3	33	16.50
9	3/4-4	10 6	3	40	19.50
10	3/4-2	6	2	281/2	15.00
10 10	3 - 4	11	2 2 2 2 2 2 2 2 2 2 3 3 2 3 3 2 4 2 4 2	50	24.00
12	3/4-2	6	2	35	17.00
12	3 -4	12	4	65	32.00
			8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00	04.00

Skinner Service Saddles Malleable Iron

The raised platform concentrates pressure on the gasket and its flat top leaves nothing to interfere with the use of the wrench. Bolt

head, not confined by flanges in casting, cannot turn. This full width, clamplike saddle reinforces and supports the pipe.

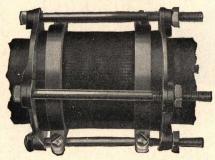
The saddle and bolt are painted with a special rustproof lacquer.

Furnished complete with bolt.

In ordering, specify exact size that saddles are to be tapped. Special threads at no extra charge. Lead gaskets attached at no

extra char	ge when specified.		
Size	Tapped	Weight	Price
Inches	Inches	Pounds .	Eaca
2	$\frac{1}{2}$, $\frac{3}{4}$, 1, $\frac{11}{4}$	23/4	\$1.00
21/2	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{1}$, $\frac{11}{4}$	31/4	1.35
3	$\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{1}$, $\frac{1}{4}$	$3\frac{1}{2}$	1.50
	$1\frac{1}{2}$, 2	4	1.75
3 C.I.	$1\frac{1}{2}$, 2	$4\frac{1}{2}$	2.35
4	$\frac{1}{2}$, $\frac{3}{4}$, 1, $\frac{1}{4}$	4	2.00
4	$1\frac{1}{2}$, 2	5	2.50
4 C.I.	$1\frac{1}{2}, 2$	6	3.25

Skinner Collar Leak Clamps



For stopping collar leaks permanently. Saves the cost of tearing out and renewing collars and coupling. This clamp works on the principle of a gland and stuffing box, forcing thegasketdirectly into the collar recesses, filling

them completely and stopping leaks at their source, the threads. Made of malleable iron. Consists of four rings, two main rings which receive the pull of the bolts and two gasket container rings.

When bolts are tightened, compression is transmitted to gasket. The gaskets, being completely confined by gasket container ring, and guided by lips in inner side of these rings, go into recesses, stopping leak and making a permanent installation. As the recesses are filled with oil proof packing under pressure, ordinary contraction and expansion does not affect the clamp.

Lugs on main ring are heavily re-inforced. Lips on gasket container ring besides guiding packing into threads, positively prevent it from squeezing out between clamp and collar.

The 2, 3, 4 and 6-inch sizes are packed three to a carton.

The 2, 3, 4 and 6-inch sizes are packed three to a carton. The 8, 10 and 12-inch sizes are packed in single cartons. All clamps, complete with gaskets and bolts, and painted with special rust-proof lacquer.

Size In.	No. of Bolts	Weight Pounds	Price Each	Size In.	No. of Bolts	Weight Pounds	Price Each
2	4	31/2	\$2.20	8	6	24	\$8.20
3	4	61/4	3.20	10	8	30	10.80
4	4	8	3.80	12	8	36	13.50
6	6	15	5.40				

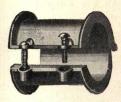


Malleable Iron Pipe Saddles

Single Strap

Size Pipe In.	Tapped for Pipe	Price
2	In. 1 to 1½	Each \$.75
21/2	1 " 2	1.00
3	1 " 2	1.00

Emergency Pipe Clamps



place. For a split, use a long strip of packing

and two or more clamps butted together.

clamps are painted to

ribs, which insure se-

curity under any pres-

resist rust.

sure.

Emergency pipe

For the larger sizes of pipe, clamps are re-inforced with heavy For repairing leaks in pipe lines, instantly, permanently. The emergency pipe clamp consists of a malleable iron cylinder, divided in halves, hinged full length along one side and fitted with tightening bolts on the other. A gasket completes the clamp.

When a leak appears, apply and tighten the clamp. The repair is permanent, and the pipe is stronger than it was in the first

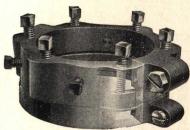


Extra Heavy, for Sizes Above 4 Inches

Furnished complete with packing.

Size Pipe In.	Length Over All Inches	Price Each	Size Pine Inches	Length Over All Inches	No. of Bolts	Price Each
1/2	31/4	\$.60	41/2	61/2	2	\$6.75
1/2 3/4	31/4	.68	5	7	3	7.50
1	31/2	.75	6	8	3	9.00
1 1/4	33/4	.90	7	9	3	10.50
1 1/2	4	1.05	8	91/2	3	12.00
2	41/4	1.20	9	10	3	13.50
21/2	$\frac{41}{2}$	1.50	10	11	4	15.00
3	5	1.88	12	12	4	18.00
31/2	51/2	2.25				
4	6	3.00				

Skinner Pipe Joint Clamps



Repairs leaks where pipe is screwed into fitting. The entire thrust is against the packing and the lip on the gasket container ring guides the packing squarely into the threads.

Made of malleable iron, elastic enough to accommodate vibration and expansion, heavy

enough to withstand the highest pressures. A positive permanent repair on steam, oil, gas, hot or cold water, air, ammonia or brine.

Painted to resist rust and fitted with Tobin bronze thrust screws. Made in halves held together by cap screws.



Size Pipe Inches	Price Each	Size Pipe Inches	Price Each	Size Pipe Inches	Price Each
1/2 3/4	\$1.50 1.50	3 31/2	\$4.50 5.25	8 9	\$13.00 15.75
$11\frac{1}{4}$ $1\frac{1}{2}$	1.50 1.90 2.25	4 4 ¹ / ₂ 5	6.00 6.75 7.50	10 12 14	18.75 22.50
2 2½	3.00 3.75	6 7	9.00 10.50	15 16	31.50 33.75 36.00

Clamps 1/2 to 12-inch are for pipe measured inside diameter; 14-inch and larger, outside diameter.

Barco Flexible Joints







Style 7-8 Straight Joint Female End

Style 7-8C Straight Joint Male Ball

Style 7C-8C Male Joint

The construction of Barco Joints, with renewable and interchangeable non-metallic gaskets surrounding the ball is mechanically correct in principle.

The success which these joints have had for fifteen years, wherever a flexible connection could be used, is ample proof of the durability and tightness of the gaskets.



Style 7C-8 Male Hexagon Female Ball

Style 7-8A Female Joint 45° Ball

Style 7-8B Female Joint 90° Ball

Bronze joints are made in sizes ½ to 2 inches, in both male and female ends. Iron joints made in sizes ½ to 48 inches. and female ends. Sizes up to 3 inches are made of malleable iron.

The 1/8 and 1/4 inch, No. 25, joints are for low pressure only, and furnished in bronze only.







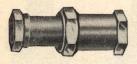
Style 7A-8B Angle, Both Ends

Style 7A-8 Angle, One End All bronze joints above one inch will be furnished with malleable iron thread on ball end. Where all bronze balls are required, joints will be subject to a special quotation. Standard joints are made to stand 150 pounds pressure.

Special joints of all kinds made to order, according to re-

quire	, III CII U			—Pric	E, EACH—		
7	D		71 2 2 2 2	-	ANGLE	JOINTS-	
IRON	PIPE		GHT JOINTS	~ ·	NGLE ONE I	END	Angle Both
Size In.	No.	Style 7-8	Styles 7-8C 7C-8, 7C-8C	Style 7-8B	Style	Styles	Ends
			10-6, 10-60	1-0D	7-8A		Style 7A-8B
1/8	25	\$5.40				\$5.80	
1/4	25	5.40				5.80	3,000
1/4	50	7.50				8.00	\$8.50
1/8 1/4 1/4 3/8 1/2 3/4	50	7.50	\$7.50	\$8.00		8.00	8.50
1/2	50	7.50	7.50	8.00	8.00	8.00	
3/4		8.80	7.50	8.00	8.00		
1 "		9.90	8.80	9.30		9.30	
11/4					9.30	10.40	Will be to the second
		12.30	9.90	10.40	10.40	12.80	13.80
11/2		14.00	12.30	12.80	12.80	14.50	15.50
2		17.50	14.00	14.50	14.50	19.50	20.20
21/2		21.00	17.50	19.50	19.50	23.00	24.00
3		26.30	21.00	23.00	23.00	28.30	33.50
4		35.10	26.30	28.30	28.30	38.10	47.10
4 5		43.90		-0.00	20.00	47.90	
6		58.50					
177			joints, add	1 70		63.50	

Brass Expansion Joints Screwed, Standard Traverse



	Trav-			Trav-	
Size	erse	Price	Size	erse	Price
In.	In.	Each	In.	In.	Each
1/2	2	\$1.50	11/2	21/4	\$5.00
3/4	21/4	2.20	2	21/2	8.00
1	21/4	2.75	21/2	21/2	17.50
11/4	21/4	4.00	3	23/4	24.00

Screwed, Special Traverse

Size			– Price, Each– Fraverse, Inche	8	
Inches	4	*6	8	10	12
1/2 3/4	\$3.80				12
3/4	4.00	\$8.25	\$9.00	\$9.75	\$10.50
1	4.90	9.00	10.00	11.00	12.00
11/4	6.30	10.00	11.25	12.50	13.75
11/2	7.40	11.50	13.00	14.50	16.00
2	9.10	13.50	15.50	17.50	19.50
21/2	••••	24.00	27.00	30.00	33.00

Iron Body Expansion Joints **Brass Sleeves**





Flanged

	1			_		
Screwe	ed.	Sta	ndar	d T	rave	rse

Size Inches	Traverse In.	Price Each	Size In.	Traverse In.	Price Each	Size In.	Traver In.	se Price Each
2	21/2	\$7.00	41/2	31/2	\$30.00	9	7	\$110.00
21/2	21/2	8.00	5	4	38.00	10	7	160.00
3	23/4	10.00	6	5	45.00	12	8	225.00
31/2	3	14.00	7	6	70.00			
4	31/4	18.00	8	7	100.00			

Screwed	Special	Traverse

Size		100000000000000000000000000000000000000		, EACH-		
Inches	*6	10	TRAVERS	E, INCHES——	16	18
2	\$11.00	\$16.00	\$18.50	\$21.00	\$23.50	\$26.00
21/2	13.00	19.00	22.00	25.00	28.00	31.00
3	17.50	25.00	29.00	33.00	37.00	41.00
31/2	25.00	35.00	40.00	45.00	50.00	55.00
4	30.00	42.00	48.00	54.00	60.00	66.00
41/2	40.00	52.00	60.00	67.00	75.00	
5	45.00	62.00	70.00	78.00	86.00	94.00
6	55.00	80.00	92.50	105.00	117.50	130.00
7		100.00	115.00	130.00	145.00	
8		140.00	160.00			

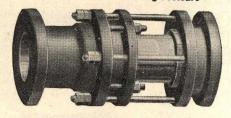
Flanged, Standard Traverse							
Size Inches	Traverse Inches	Diam. Flanges Inches	Price Each	Size Inches	Traverse Inches	Diam. Flanges Inches	Price Each
2	21/2	6	\$15.00	7	6	121/2	\$80.00
21/2	$\frac{21}{2}$	7	16.00 18.50	8	7	131/2	110.00
31/2	$\frac{23}{4}$	$\frac{71/2}{81/2}$	25.00	9	7 7	15 16	120.00 175.00
4	31/4	9	30.00	12	8	19	250.00
4½ 5	31/2	91/4	40.00	14	10	21	500.00
6	5	10	48.00 55.00	15 16	10	221/4	550.00
U	0	11	55.00	10	10	$23\frac{1}{2}$	600.00

Flanged Special Traverse

Size			TRAVERS	E, INCHES-		
Inches	*6	10	12	14	16	18
2	\$18.00	\$23.00	\$25.50	\$28.00	\$30.50	\$33.00
21/2	20.00	26.00	29.00	32.00	35.00	38.00
3	25.00	32.50	36.50	40.50	44.50	48.50
31/2	35.00	45.00	50.00	55.00	60.00	65.00
4	40.00	52.00	58.00	64.00	70.00	76.00
41/2	50.00	63.00	70.00	77.00	85.00	
5	55.00	72.00	80.00	88.00	96.00	104.00
6	65.00	90.00	102.50	115.00	127.50	140.00
7		112.00	127.00	142.00	157.00	172.00
8		150.00	170.00	190.00	210.00	230.00
10		225.00	255.00	285.00	315.00	350.00
12		300.00	350.00	400.00		
*Eas	stern Tra	verse.	3000			

Extra Heavy Expansion Joints

Iron Body, Brass Sleeve, with Tie Rods For 250 Pounds Working Pressure



Standard Traverse-Screwed

Size In.	Tra- verse Inches	End to End Opened Inches	Price - Each	Size In.		End to End Opened Inches	Price Each
2	21/2	151/8	\$30.00	6	5	247/8	\$100.00
21/2	$2\frac{1}{2}$	1513/16	40.00	7	6	277/8	120.00
3	23/4	167/8	50.00	8	7	303/4	145.00
31/2	3	18	60.00	9	7	$31\frac{3}{4}$	190.00
5	31/4	$\frac{187/8}{215/8}$	70.00	10	7	$32\frac{3}{4}$	240.00
3	4	21/8	80.00	12	8	36 15/16	290.00

Standard Traverse-Flanged

Size In.	Tra- verse Inches	Diam. Flange Inches	Face to Face Opened Inches	Price Each
2 21/2	$\frac{2\frac{1}{2}}{2\frac{1}{2}}$	$\frac{6\frac{1}{2}}{7\frac{1}{2}}$	$\frac{15\frac{1}{2}}{16}$	\$35.00
31/2	$\frac{2}{3}\frac{2}{4}$	814	175%	45.00 55.00
4 5	31/4	10	18^{11}_{16} 19^{1}_{2}	65.00 75.00
6 7	5	$\begin{array}{c} 11 \\ 12\frac{1}{2} \end{array}$	$22\frac{3}{8}$ $25\frac{3}{4}$	85.00 105.00
8	6 7	14 15	$\frac{28\frac{1}{2}}{31\frac{1}{2}}$	125.00 150.00
9	7 7	$16\frac{1}{4}$ $17\frac{1}{2}$	$\frac{31^{5}}{8}$ $\frac{33^{5}}{8}$	200.00 250.00
12 14	8 10	$\frac{20\frac{1}{2}}{23}$	$\frac{371}{16}$	300.00 500.00
15 16	$\begin{array}{c} 10 \\ 10 \end{array}$	$24\frac{1}{2}$ $25\frac{1}{2}$	43½ 45	500.00 750.00
18	10	. 28	461/8	1000.00

Special Traverse—Screwed

			-PRICE, EACH-		
Traverse		ATTACH THE PARTY OF	-Size, Inches-		
Inches	2	21/2	3	31/2	4
4	\$35.00	\$45.00	\$55.00	\$65.00	\$75.00
6	40.00	50.00	60.00	70.00	80.00
10	45.00	55.00	65.00	75.00	85.00
12	50.00	60.00	70.00	80.00	90.00
14	55.00	65.00	75.00	85.00	95.00
16	60.00	70.00	80.00	90.00	100.00
			-PRICE, EACH-		
Traverse	-		-Size, Inches-		
Inches	5	6	7	8	
6	\$85.00	\$105.00			
10	95.00	125.00	\$145.00	\$175.00	
12	105.00	135.00	160.00	205.00	
14	115.00	145.00	175.00	235.00	
16	125.00	155.00	190.00	265.00	

Special Traverse—Flanged

		-PRICE, EACH		
2	21/2	3	31/2	4
\$40.00	\$50.00	\$60.00	\$70.00	\$80.00
45.00	55.00	65.00	75.00	85.00
50.00	60.00	70.00	80.00	90.00
55.00	65.00	75.00	85.00	95.00
60.00	70.00	80.00	90.00	100.00
65.00	75.00	85.00	95.00	105.00
5	c	SIZE, INCHES		
	THE RESERVE TO SERVE		8	• • • • • • • • • • • • • • • • • • • •
100.00	130.00	\$150.00	\$180.00	
110.00	140.00	165.00		
120.00	150.00			The second second
130.00	160.00	195.00	270.00	
	\$40.00 45.00 50.00 55.00 60.00 65.00 55.00 100.00 110.00 120.00	2 2½ \$40.00 \$50.00 45.00 \$50.00 50.00 60.00 55.00 65.00 60.00 70.00 65.00 75.00 5 6 \$90.00 \$110.00 100.00 130.00 110.00 140.00 120.00 150.00	2 2½2 SIZE, ÎNCHES 3 3 SIZE, ÎNCHES 3 SIZE, ÎNCHES 3 SIZE, ÎNCHES 5 6 7 7 SPO.00 110.00 140.00 165.00 180.00 120.00 150.00 180.00	2 2½ 3 3 3½ \$40.00 \$50.00 \$60.00 \$70.00 45.00 \$55.00 65.00 75.00 50.00 60.00 70.00 80.00 55.00 65.00 75.00 85.00 60.00 70.00 80.00 90.00 65.00 75.00 85.00 95.00 PRICE, EACH SIZE, INCHES 5 6 7 8 \$90.00 \$110.00 100.00 130.00 \$150.00 \$180.00 110.00 140.00 165.00 210.00 120.00 150.00 180.00 240.00

Anaconda Seamless Brass, Red Brass and Copper Pipe Standard Pipe Sizes



Anaconda Brass Pipe is made from the best grades of copper and zinc and is manufactured by an especially developed process. Both copper and zinc, the raw materials of brass, come from Anaconda mines. Every step of the manufacture of Anaconda Brass Pipe, from the mining of the ore to the foreigned product is under the coordinated control of a single finished product, is under the coordinated control of a single organization.

Brass pipe does not rust, it does not poison water and it has a long life. It insures a full flow of clear water. By installing Anaconda Brass Pipe instead of corrodible pipe the home-builder obtains an effective form of insurance, protecting him against rust annoyance and expensive repairs.

Special sizes of Anaconda Brass and Copper Pipe are made to order in such dimensions and gauges as the contractor or architect may require.

Variations from the weights given below must be expected in practice. The weights are based on the following densities: brass, .307 pounds per cubic inch, red brass, .316 pounds per cubic inch; copper, .323 pounds per cubic inch.

Regular

Std.			Wall Thick-	WEI	GHT, POUNDS	nn Form
Size		ER, INCHES	ness	WEIG	Red	PER FOOT
Inches	Outside	Inside	Inches	Brass	Brass	Copper
1/8	.405	.281	.0620	.246	.253	.259
1/4	.540	.375	.0825	.437	.450	.460
3/8	. 675	.494	.0905	.612	.630	.643
1/2	.840	. 625	.1075	.911	.938	- Description
1/ ₄ 3/ ₈ 1/ ₂ 3/ ₄	1.050	.822	.1140	1.24	1.27	.957
1	1.315	1.062	.1265	1.74	1.79	1.30
11/4	1.660	1.368	.1460	2.56		1.83
11/2	1.900	1.600	.1500	3.04	2.63	2.69
2	2.375	2.062	.1565		3.13	3.20
21/2	2.875	2.500	.1875	4.02	4.14	4.23
3	3.500	3.062		5.83	6.00	6.14
31/2	4.000	3.500	.2190	8.31	8.56	8.75
4	4.500		.2500	10.85	11.17	11.41
41/2		4.000	.2500	12.29	12.66	12.94
5	5.000	4.500	.2500	13.74	14.15	14.46
	5.563	5.062	.2505	15.40	15.85	16.21
6	6.625	6.125	.2500	18.44	18.99	19.41
7	7.625	7.062	.2815	23.92	24.63	25.17
8	8.625	8.000	.3125	30.05	30.95	31.63
9	9.625	8.937	.3440	36.94	38.03	38.83
10	10.750	10.019	.3655	43.91	45.20	46.22
						10.22

Extra Heavy

		- Prince	and I	cavy		
Std.			Wall Thick-	War	oven De-	
Size	DIAMETE	R. INCHES	ness	WEI	GHT, POUNDS P	ER FOOT
Inches	Outside	Inside	Inches	Brass	Red Brass	Copper
1/8 1/4 3/8 1/2 3/4	.405	.205	.100	.353	.363	.371
1/4	.540	.294	.123	.593	.611	.624
3/8	.675	. 421	.127	.805	.829	.847
1/2	.840	. 542	.149	1.19	1.23	1.25
3/4	1.050	.736	.157	1.62	1.67	
1	1.315	.951	.182	2.39		1.71
11/4	1.660	1.272	.194	3.30	2.46	2.51
11/2	1.900	1.494	.203		3.39	3.46
2	2.375	1.933		3.99	4.10	4.19
21/2	2.875		.221	5.51	5.67	5.79
3		2.315	.280	8.41	8.66	8.84
	3.500	2.892	.304	11.24	11.57	11.82
31/2	4.000	3.358	.321	13.67	14.07	14.37
4	4.500	3.818	.341	16.41	16.89	17.25
41/2	5.000	4.250	.375	20.07	20.66	
5	5.563	4.813	.375	22.52	23.18	21.10
6	6.625	5.751	.437	31.32		23.67
7	7.625	6.625	.500		32.21	32.93
8	8.625	7.625		41.23	42.43	43.34.
9	9.625		.500	47.02	48.39	49.42
10		8.625	.500	52.81	54.34	55.56
Price	10.750	9.750	.500	59.32	61.05	62.40
11166	• • • • • • • • • •				per pound	
					T L carro	

Brass Nipples Iron Pipe Size





Long

Size	Length Close		P	RICE, ROUGH,	Еасн-	200
Inches	Inches	Close	11/2	LENGTH, INC	21/2	3
1/8	3/4	. \$.11	\$.13	\$.15	\$.17	\$.19
1/ ₄ 3/ ₈ 1/ ₂ 3/ ₄	7/8	.13	.16	.19	.22	.25
3/8	1	.15	.19	.23	.27	.31
1/2	11/8	.23	.25	.30	.35	.40
3/4	13/8	.28		.35	.42	.49
1	11/2	.37		.44	.53	.62
11/4	15/8	.60			.75	.88
11/2	13/4	.70			.90	1.05
2	2	1.00			1.20	1.40
21/2	21/2	1.70				2.00
3	$2\frac{1}{2}$	2.50				2.90
31/2	23/4	4.00				2.00
4	3	4.75				
41/2	3	5.50				
5	31/2	8.50	A			The control of
0	31/2	11.50				

	0/2	11.00	•••			
a.			-PRICE, R	ough, Each-	100	
Size	-11		LENGTH	H, INCHES-		7 mm
Inches	31/2	4	41/2	5	51/2	6
1/8	\$.21	\$.23	\$.25	\$.27	\$.29	\$.31
3/8	.28	.31	.34	.37	.40	.43
3/8	.35	.39	.43	.47	.51	.55
1/2 3/4	.45	.50	.55	.60	.65	.70
3/4	.56	.63	.70	.77	.84	.91
1	.71	.80	.89	.98	1.07	1.16
11/4	1.01	1.14	1.27	1.40	1.53	1.66
11/2	1.20	1.35	1.50	1.65	1.80	1.95
2	1.60	1.80	2.00	2.20	2.40	
21/2	2.30	2.60	2.90	3.20	3.50	2.60
3	3.30	3.70	4.10	4.50	4.90	3.80
31/2	1	5.40	6.00	6.60	7.20	5.30
4		6.15	6.85	7.55		7.80
41/2		7.20	8.05	8.90	8.25	8.95
5	111111		10.60	11.65	9.75	10.60
6			The second secon		12.70	13.75
-			14.10	15.40	16.70	18 00

Polished brass nipples, longer than close, 25 per cent extra. Nickel-plated nipples 20 per cent extra over polished list.

Standard Brass Unions **Ground Joints**

For 150 Pounds Steam Working Pressure

			No. of Concession, Name of Street, or other Persons and Street, or other P			۱
		I	PRICE, EAC	CH	Kir Ar &	
Siz		Semi-	Pol-	3.	Pol.	
In		Fin.	ished	N. P.	Tinned	
1	8 \$.40	\$.45	\$.50	\$.60	\$.65	
1	4 .50	.55	.60	.72	.75	
3	8 .65	.75	.85	1.02	1.05	
1	2 .85	.95	1.05	1.25	1.30	
3	4 1.15	1.30	1.40	1.68	1.70	
1	1.60	1.75	1.90	2.28	2.35	
11	4 2.25	2.50	2.75	3.30	3.30	
11	2 2.70	3.00	3.25	3.90	3.85	
2	4.00	4.50	5.00	6.00	5.90	
21	2 7.50	8.25	9.00	10.80	10.20	
3	11.50	12.75	14.00	16.80	16.25	
31	2	22.50	25.00	30.00	28.00	
4		30.00	33.00	39.50	36.75	



Prices for acid-resisting metal upon application.



Brass Railing Flanges

PRICE, EACH Size Inches PRICE, EACH Rough Fin. Inches Rough Fin. .75 1.50

Nickel-plated flanges take 20 per cent over finished list.

Rough Brass Screwed Fittings

Malleable Iron Pattern, Iron Pipe Size

For 125 Pounds Steam Working Pressure











Finished Brass Screwed Fittings

Malleable Iron Pattern, Iron Pipe Size

For 125 Pounds Steam Working Pressure



Size			Price	, Eac	h			
# Reducing	Sizein.	1/8	1/4	3/8	1/2	3/4	1	11/4
# Reducing	Elbows 90°	\$.12	\$.15 \$.20	\$.28	\$.40		
" Street	" Keducing				.35		.80	
Street S	" 45°							
" Side Outlet		and the same of th			The second second second			
Tees	" Drop, remaie						A STATE OF S	
# Reducing	Tees							
" Drop, Female.	" Reducing							
" 4-way	" Drop. Female							
Crosses .25 .30 .40 .55 .80 1.25 1.80 "Reducing .38 .50 .70 1.00 1.55 2.25 Bushings, Regular .10 12 .15 .22 .35 .50 "Reducing .08 .10 .12 .15 .20 .30 .45 "Solid .18 .22 .30 .45 .80 "Countersunk .22 .30 .45 .80 "Couptings .10 .13 .16 .20 .30 .45 .65 Locknuts .10 .13 .16 .20 .30 .42 .60 Locknuts .10 .13 .16 .20 .30 .42 .60 Locknuts .10 .13 .17 .25 .37 .55 .80 Reducirer .15 .20 .28 .40 .60 .90 Couplings .10 .13	" 4-way							
# Reducing	Crosses	.25	.30		.55			
Bushings, Regular	" Reducing		.38	.50				
Plugs, Regular 08					.15			
" Solid " Countersunk	ravv							.62
" Countersunk <	Flugs, Kegular							
Caps	" Solid							
Locknuts	Countersunk							
Reducers .15 .20 .28 .40 .60 .90 Couplings .10 .13 .17 .25 .37 .55 .80 " Rand L .17 .22 .30 .45 .70 1.00 1.25 1.80 Return Bends, Close .70 1.00 1.25 1.80 1.10 1.40 2.15 1.80 1.10 1.65 2.50 1.00 1.25 1.80 1.10 1.65 2.50 1.10 1.65 2.50 1.10 1.65 2.50 2.15 4 1.60 2.25 2.00 2.80 8.00 1.10 1.60 2.25 2.00 3.50 \$6.00 \$8.00 \$10.00 2.25 4 2.50 4.25 7.50 10.00 12.50 4.25 7.50 10.00 12.50 4.25 7.50 10.00 12.50 4.25 7.50 10.00 12.50 4.25 7.50 10.00 12.50 4.25 7.50								
Couplings 10 .13 .17 .25 .37 .55 .80 " Rand L .17 .22 .30 .45 .70 1.00 Return Bends, Close .70 1.00 1.25 1.80 " Open .75 1.10 1.40 2.15 Y Bends								
" R and L .17 .22 .30 .45 .70 1.00 Return Bends, Close .70 1.00 1.25 1.80 " Open .80 1.10 1.40 2.15 Y Bends .75 1.10 1.65 2.50 Unions, Standard .50 .65 .85 1.15 1.60 2.25 " Octagon .65 .85 1.10 1.50 2.00 2.80 Size .in 1½ 2 2½ 3 3½ 4 Elbows 90° \$1.20 \$2.00 \$3.50 \$6.00 \$8.00 \$10.00 " Reducing 1.50 2.50 4.25 7.50 10.00 12.50 " Street 2.00 3.40 " Brop, Female 2.00 3.40								
Return Bends, Close 70 1.00 1.25 1.80 " Open 1.10 1.40 2.15 Y Bends <	" Rand L				.30			1 00
## Open	Return Bends, Close						1.25	
Seed	" " Open				.80	1.10		
Size	Y Bends						1.65	
Size in 1½ 2 2½ 3 3½ 4 Elbows 90° \$1.20 \$2.00 \$3.50 \$6.00 \$8.00 \$10.00 "Reducing 1.50 2.50 4.25 7.50 10.00 12.50 "45° 1.20 2.00 3.50 6.00 10.00 10.00 "Street 2.00 3.40 "Brop, Female 2.00 3.40 "Bide Outlet 3.60 6.00 10.50 18.00 Tees 1.70 2.80 5.00 8.50 11.00 14.00 17.50 "Reducing 2.10 3.50 6.25 10.50 14.00 17.50 "A-way 5.00 8.50 Crosses 2.40 4.00 7.00 12.00 16.00 20.00 "Bushings, Regular 70								
Blbows 90° \$1.20 \$2.00 \$3.50 \$6.00 \$8.00 \$10.00 "Reducing 1.50 2.50 4.25 7.50 10.00 12.50 "45° 1.20 2.00 3.50 6.00 10.00 12.50 "Street 2.00 3.40 "Brop, Female 2.00 3.40 "Side Outlet 3.60 6.00 10.50 18.00 "Tees 1.70 2.80 5.00 8.50 11.00 14.00 17.50 "Reducing 2.10 3.50 6.25 10.50 14.00 17.50 "A-way 5.00 8.50 <td< td=""><td>" Uctagon</td><td></td><td>.65</td><td>.85</td><td>1.10</td><td>1.50</td><td>2.00</td><td>2.80</td></td<>	" Uctagon		.65	.85	1.10	1.50	2.00	2.80
Blbows 90° \$1.20 \$2.00 \$3.50 \$6.00 \$8.00 \$10.00 "Reducing 1.50 2.50 4.25 7.50 10.00 12.50 "45° 1.20 2.00 3.50 6.00 10.00 12.50 "Street 2.00 3.40 "Brop, Female 2.00 3.40 "Side Outlet 3.60 6.00 10.50 18.00 "Tees 1.70 2.80 5.00 8.50 11.00 14.00 17.50 "Reducing 2.10 3.50 6.25 10.50 14.00 17.50 "A-way 5.00 8.50 <td< td=""><td>Sizein.</td><td>11/2</td><td>2</td><td>21/</td><td>6</td><td>3</td><td>31/</td><td>1</td></td<>	Sizein.	11/2	2	21/	6	3	31/	1
" Reducing 1.50 2.50 4.25 7.50 10.00 12.50 " 45° 1.20 2.00 3.50 6.00 10.00 10.00 " Street 2.00 3.40 " Brop, Female 2.00 3.40 Tees 1.70 2.80 5.00 8.50 11.00 14.00 17.50 " Reducing 2.10 3.50 6.25 10.50 14.00 17.50 " 4-way 5.00 8.50 <	Elbows 90°							
" Street 2.00 3.25	" Keducing							
" Street. 2.00 3.25 " Drop, Female. 2.00 3.40 " Side Outlet. 3.60 6.00 10.50 18.00 Tees. 1.70 2.80 5.00 8.50 11.00 14.00 " Reducing. 2.10 3.50 6.25 10.50 14.00 17.50 " 4-way. 5.00 8.50 Crosses. 2.40 4.00 7.00 12.00 16.00 20.00 25.00 Bushings, Regular. 70 1.00 1.50 2.50 3.75 5.00 "Face. 87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular. 60 .95 1.50 2.25 3.75 5.00 "Solid. 1.20 1.90 3.00 4.50 7.50 10.00 "Countersunk. .90 1.40 10.	" 45°	1.20	2.00	3.				
"Side Outlet." 3.60 6.00 10.50 18.00 Tees. 1.70 2.80 5.00 8.50 11.00 14.00 "Reducing. 2.10 3.50 6.25 10.50 14.00 17.50 "4-way 5.00 8.50								
Tees. 1.70 2.80 5.00 8.50 11.00 14.00 "Reducing. 2.10 3.50 6.25 10.50 14.00 17.50 "4-way. 5.00 8.50 Crosses. 2.40 4.00 7.00 12.00 16.00 20.00 "Reducing. 3.00 5.00 8.75 15.00 20.00 25.00 Bushings, Regular. 70 1.00 1.50 2.50 3.75 5.00 "Face. 87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular. 60 95 1.50 2.25 3.75 5.00 "Solid. 1.20 1.90 3.00 4.50 7.50 10.00 "Countersunk 90 1.40 Caps. 80 1.25 2.50 3.50 5.50 7.00 Locknuts 55 80 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 Reducers 1.10 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 Reducers 2.50 4.25 "Rand L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25	Drop, romaio.			1221				
" Reducing. 2.10 3.50 6.25 10.50 14.00 17.50 " 4-way. 5.00 8.50 8.0	Did Outlot							
" 4-way 5.00 8.50 Crosses 2.40 4.00 7.00 12.00 16.00 20.00 " Reducing 3.00 5.00 8.75 15.00 20.00 25.00 Bushings, Regular .70 1.00 1.50 2.50 3.75 5.00 " Face .87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular .60 .95 1.50 2.25 3.75 5.00 " Solid 1.20 1.90 3.00 4.50 7.50 10.00 " Countersunk .90 1.40 <td>" Rodneing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	" Rodneing							
Crosses 2.40 4.00 7.00 12.00 16.00 20.00 " Reducing 3.00 5.00 8.75 15.00 20.00 25.00 Bushings, Regular .70 1.00 1.50 2.50 3.75 5.00 " Face .87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular .60 .95 1.50 2.25 3.75 5.00 " Solid 1.20 1.90 3.00 4.50 7.50 10.00 " Countersunk .90 1.40 Caps .80 1.25 2.50 3.50 5.50 7.00 Locknuts .55 .80 1.75 2.75 4.00 5.00 Reducers 1.10 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 Return Bends, Close 2.50 4.25 <td>mounding</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	mounding							
Reducing 3.00 5.00 8.75 15.00 20.00 25.00 Bushings, Regular 70 1.00 1.50 2.50 3.75 5.00 " Face 87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular 60 95 1.50 2.25 3.75 5.00 " Solid 1.20 1.90 3.00 4.50 7.50 10.00 " Countersunk 90 1.40 Caps 80 1.25 2.50 3.50 5.50 7.00 Locknuts 55 80 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 " R and L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open 3.00 4.75 8.25 11.00	1 110]			7	00 12	00	16 00	20.00
Bushings, Regular .70 1.00 1.50 2.50 3.75 5.00 "Face .87 1.25 1.85 3.10 4.75 6.25 Plugs, Regular .60 .95 1.50 2.25 3.75 5.00 "Solid 1.20 1.90 3.00 4.50 7.50 10.00 "Countersunk .90 1.40 Caps .80 1.25 2.50 3.50 5.50 7.00 Locknuts .55 .80 1.75 2.75 4.00 5.00 Reducers 1.10 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 Return Bends, Close 2.50 4.25 "Open 3.00 4.75 8.25 11.00	" Reducing				75 15	00		
Face								
Plugs, Regular 60 .95 1.50 2.25 3.75 5.00 "Solid 1.20 1.90 3.00 4.50 7.50 10.00 "Countersunk .90 1.40 Caps .80 1.25 2.50 3.50 5.50 7.00 Locknuts .55 .80 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 " R and L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open 3.00 4.75 8.25 11.00								
" Solid. 1.20 1.90 3.00 4.50 7.50 10.00 " Countersunk. .90 1.40 .90 1.40 .90 1.25 2.50 3.50 5.50 7.00 Locknuts. .55 .80 1.75 2.75 4.00 5.00 8.00 Reducers. 1.10 1.75 2.75 4.00 6.00 8.00 Couplings. 1.00 1.60 2.50 3.50 5.25 7.00 " R and L. 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open. 3.00 4.75 8.25 11.00	Plugs, Regular	.60	.95	1.!				
Caps. .80 1.25 2.50 3.50 5.50 7.00 Locknuts .55 .80 1.75 2.75 4.00 5.00 Reducers 1.10 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 " R and L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open 3.00 4.75 8.25 11.00	" Solid			3.0	00 4	.50		
Dockmus								
Reducers 1.10 1.75 2.75 4.00 6.00 8.00 Couplings 1.00 1.60 2.50 3.50 5.25 7.00 " R and L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open 3.00 4.75 8.25 11.00		.80						7.00
Couplings 1.00 1.60 2.50 3.50 5.25 7.00 " R and L 1.30 2.00 3.10 4.50 Return Bends, Close 2.50 4.25 " Open 3.00 4.75 8.25 11.00		1.55						5.00
" R and L 1.30 2.00 3.10 4.50 Return Bends, Close. 2.50 4.25 " Open. 3.00 4.75 8.25 11.00		1.10			15 4			
Return Bends, Close . 2.50 4.25	Cauplings		1 60					
" " Open. 3.00 4.75 8.25 11.00	" R and L	1.00						2 2
	" R and L	1.00 1.30	2.00		10 4	.50		
Y Bends	" R and L Return Bends, Close " Open	1.00 1.30 2.50	2.00 4.25	3.1	10 4	.50		

Right and Left Elbows and Right and Left Return Bends will be furnished at an advance of 25 per cent over above list prices.

7.50

11.50

9.00 14.00

Unions, Standard 2.70 4.00

Octagon 3.60 5.25

Elbows, Tees, Crosses, Bushings and Reducers, reducing more than two sizes, will be furnished at an advance of 25 per cent over above reducing list prices.

Price, Each

			,				
Sizein	. 1/8	1/4	3/8	1/2	3	3/4 1	11/4
Elbows, 90°	\$.30	\$.35	\$.45	\$.5		75 \$1.1	
" Reducing	00	.44	.55	.7		95 1.4	
" 45°	.38	.45	.55	.6		85 1.2	
" Street	.47	.52	.63	.8		08 1.4	
prop, remaie.			.85	1.0		40 2.0	
blue oulies			1.35	1.7		25 3.3	80 4.70
Tees	.42	.49	.63	.8		05 1.5	0 2.15
nounding		.60	.77	1.0		30 1.8	35 2.65
Drop, remaie			1.13	1.3	5	80 2.5	55
" 4-way	.60	.70		2.0		70 3.9	
" Reducing			.90	1.10		50 2.2	
Bushings		.22	.27	1.4		85 2.7	
Plugs, Regular	.23	.30	.37	.4	2 .	47 .7 55 .7	
" Solid			.43	.50		55 .7 65 .9	
" Countersunk				.4		55 .8	
Caps		.25	.31	.40		55	
Locknuts	.24	.25	.32	.40	0	50 .6	
Reducers		.35	.45	.5		75 1.0	
Couplings	.24	.28	.36	.40		63 .9	
" Rand L		.37	.47	.5		80 1.1	
Return Bends, Close				1.5			
ороц				1.6		15 2.8	0 4.10
Y Bends				1.60			
Unions, Semi-finished.	.45	.55	.75	.9			
" Finished	.50	.60	.85	1.05	5 1.	40 1.9	0 2.75
Sizein Elbows, 90°	11/2	2	21		3	31/2	4
Elbows, 90°	\$2.00	\$3.00	\$5.		\$9.00	\$14.00	\$17.50
" Reducing	2.50	3.75			11.25	17.50	22.00
" 45°	2.20	3.25		00	9.75		19.50
" Drop, Female.	3.60	4.50				/	
" Side Outlet	6.00	5.40	10			/	
Tees	2.80	9.00	16.		27.00	10 50	::::::
" Reducing	3.50	5.25	7. 9.		12.75	19.50	
" 4-way	7.40	11.50		THE STATE OF	15.80	24.50	
Crosses	4.00	6.00	ii.		8.00	28.00	35.00
" Reducing		7.50	13.	All the same of th	22.50	35.00	
	1.40	2.00	3.		4.50	6.25	
Plugs, Regular	1.30	1.95	3.		4.25	6.25	
" Solid	1.90	2.90	4.		6.50	10.00	
" Countersunk	1.55	2.25					
Caps	1.50	2.25	4.		5.50	8.00	10.00
Locknuts	1.10	1.60	3.		4.75	6.50	8.00
Reducers	1.90	2.75	4.		7.00	12.00	
Couplings	1.60	2.35	4.		5.75	9.75	12.50
nand u	2.10	3.00	5.	10	7.50		
Return Bends, Close " " Open		7.25	14				
V Rande	5.40	7.75	14.		0.00		:::::
Y Bends Unions, Semi-finished.	3.00	8.50 4.50	15.		5.00	20 50	41.00
" Finished	3.25	5.00	9.		2.75	22.50	30.00
rimbuou	3.23	0.00	3.	00 1	4.00	25.00	33.00

Right and Left Elbows, and Right and Left Return Bends will be furnished at an advance of 25 per cent over above list prices.

Elbows, Tees, Crosses, Bushings and Reducers, reducing more than two sizes, will be furnished at an advance of 25 per cent over above reducing list prices.

Nickel-plated Brass Screwed Steam Fittings

Iron Pipe Size, Polished and Buffed

For 125 Pounds Steam Working Pressure







45° Elbow

Tee





Y Bend

		Price,					
Size inches	1/8	1/4	3/8	1/2	3/4	1	11/4
Elbows ea.	\$.36	\$.42		\$.65	\$.87		
" Reducing "	*	.52	.65	.82	1.10		
" 45° "	.45	.53	.65	.78	1.00		1.95
" Street . "	.54	.60	.73	.95	1.23		
" Drop, Fenale"				1.25	1.65		
" Side, Outlet "				2.00	2.60		5.35
Tees	.50		.75	.93	1.22		2.45
" Reducing "	*			1.15	1.50		3.00
" Drop, Female "				1.62	2.15		
" 4-way"				2.35	3.05		6.35
Crosses"	.72			1.30	1.75		3.50
" Reducing . "	*	1.05		1.65	2.15		4.35
Bushings "		.26	.32	.42	.55	.82	1.15
Plugs"	.28	.37	.45	.52	.67		1.20
Solid Plugs. "			.51	.59	.77		1.55
Countersunk Plugs "				.49	.63		1.30
Caps "	.23		.36	.47	.63		1.25
Lock-nuts "	.29		.39	.48	.60		1.00
Reducers "		.42	.53	.65	.87		1.75
Couplings "	.29	.33		.53	.72	1.00	1.45
" R. & L. "			.55	.67	.92	1.30	1.85
Return Bends, Close"				1.85	2.40	3.10	4.40
" " Open "				1.95	2.50	3.25	4.75
Y Bends "							
1 Denus				1.90	2.50	3.50	5 10
1 Delius	11/			1.90	2.50	3.50	5.10
Size inches	11/2	2	21/2		3	31/2	4
Size inches	1½ \$2.25	2 \$3.35	2½ \$6.1	5 \$10	3	3½ 316.00	4 \$20.00
Size inches Elbows ea. " Reducing "	$1\frac{1}{2}$ \$2.25 2.85	2 \$3.35 4.15	2½ \$6.15 7.66	5 \$10 0 12	3 .00 \$	3½ 316.00 20.00	4 \$20.00 25.00
Size inches Elbows ea. " Reducing" " 45°"	$1\frac{1}{2}$ \$2.25 2.85 2.55	2 \$3.35 4.15 3.65	2½ \$6.15 7.66 6.85	5 \$10 0 12 5 11	3 0.00 \$ 0.50 0.00	3½ 316.00 20.00	4 \$20.00
Size inches Elbows ea. " Reducing" " 45°" " Street"	1½ \$2.25 2.85 2.55 3.35	2 \$3.35 4.15 3.65 4.90	21/ ₂ \$6.1! 7.60 6.8!	5 \$10 0 12 5 11	3 0.00 \$ 0.50 0.00	3 ¹ / ₂ 316.00 20.00	4 \$20.00 25.00
Size inches Elbows ea "Reducing " " 45° " " Street " " Drop, Female"	1½ \$2.25 2.85 2.55 3.35 4.10	2 \$3.35 4.15 3.65 4.90 6.00	2½ \$6.19 7.66 6.89	5 \$10 0 12 5 11	3 0.00 \$ 0.50 0.00	3½ 316.00 20.00	4 \$20.00 25.00 22.50
Size inches Elbows ea. " Reducing" " 45°" " Street" " Drop, Female" " Side, Outlet "	1½ \$2.25 2.85 2.55 3.35 4.10 6.80	2 \$3.35 4.15 3.65 4.90 6.00 10.00	21/ ₂ \$6.15 7.66 6.85	5 \$10 0 12 5 11 	3 0.00 \$ 2.50 .00	3½ 316.00 20.00	4 \$20.00 25.00 22.50
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female" " Side, Outlet " Tees	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65	21/ ₂ \$6.15 7.66 6.85 18.56 8.65	5 \$10 0 12 5 11 	3 0.00 \$ 0.50 .00	3½ 316.00 20.00	4 \$20.00 25.00 22.50 28.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female" " Side, Outlet " Tess " Reducing " Reducing	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85	21/ ₂ \$6.15 7.66 6.85 18.56 8.65 10.96	5 \$10 0 12 5 11 	3 .00 \$.50 .00 	3½ 616.00 20.00 22.30 28.00	4 \$20.00 25.00 22.50
Size inches Elbows ea. "Reducing" "45°" "Street" "Drop, Female" "Side, Outlet " Tees" "Reducing" "Reducing" "Drop, Female"	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85	21/ ₂ \$6.1! 7.66 6.8! 18.56 8.6!	5 \$100 0 12 5 11 0 30 5 14 0 17	3 0.00 \$ 0.50 .00	3½ 316.00 20.00	4 \$20.00 25.00 22.50 28.00
Size inches Elbows ea. " Reducing " " 45° " " Street " " Drop, Female" " Side, Outlet " Tees " " Reducing " " Brop, Female " " 4-way "	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85	2½ \$6.15 7.66 6.85 18.50 8.65 10.90	5 \$100 0 12 5 11 0 30 5 14 0 17	3 0.00 \$ 2.50 0.00 0.00 0.00 0.50	3 ¹ / ₂ 316.00 20.00 22.30 28.00	4 \$20.00 25.00 22.50 28.00 35.00
Size inches Elbows ea. "Reducing " 45° " Street " Drop, Female" Side, Outlet " Tees " Reducing " Reducing " Tees " Crosses " Crosses "	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85	2 ¹ / ₂ \$6.1! 7.66 6.8! 18.50 8.69	5 \$100 0 125 5 111 0 300 5 144 0 17	3 .00 \$.50 .00 .00 .50	3½ 316.00 20.00 22.30 28.00	4 \$20.00 25.00 22.50 28.00 35.00 40.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female" Side, Outlet " Tees " Reducing " " Reducing " " Heducing " Teves " Reducing " Reducing " Teves " Reducing " Reducing " Reducing "	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 5.70	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30	21/2 \$6.1! 7.66 6.8! 18.56 8.6! 10.90	5 \$100 0 125 5 111 0 300 5 144 0 177 0 200 0 25	3 .00 \$.50 .00 .00 .50 	3½ 616.00 20.00 22.30 28.00 32.00 40.00	4 \$20.00 25.00 22.50 22.50 28.00 35.00 40.00 50.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female " " Side, Outlet " Tees " Reducing " Brop, Female " 4-way Crosses " Reducing " Bushings "	1½ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 5.70 1.65	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35	21/2 \$6.1! 7.66 6.8! 18.56 8.69 10.90 12.30 15.40 3.50	5 \$100 0 125 5 111 0 300 5 144 0 177 0 200 0 250 0 5	3 .00 \$.50 .00 .00 .50 .00 .50	3½ 516.00 20.00 22.30 28.00 40.00 7.10	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female " Side, Outlet Tees " Prop, Female " Prop, Female " A-way Crosses " Reducing " Reducing " Bushings Plugs	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 5.70 1.65	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.30	21/ ₂ \$6.19 7.66.89 18.56 8.66 10.90 12.33 15.44 3.56 3.56	5 \$100 0 125 5 111 0 300 5 144 0 177 0 200 0 250 0 50	3 .00 \$.50 .00 .00 .50 	3½ 316.00 20.00 22.30 28.00 40.00 7.10	4 \$20.00 25.00 22.50 28.00 35.00 40.00 9.00 9.00
Size inches Elbows ea. "Reducing average A5° average "Street average A5° average "Side, Outlet average Average "Reducing average Average Average "A-way average Aver	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 5.70 1.65 1.55 2.15	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.30 3.25	21/ ₂ \$6.19 7.66.89 18.56 8.69 12.33 15.40 3.56 5.00	5 \$100 0 125 111 0 30 5 144 0 17 0 20 0 25 0 4 0 7	3 .00 \$.50 .00 .00 .50 .00 .15	3½ 516.00 20.00 22.30 28.00 40.00 7.10	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00
Size inches Elbows ea. "Reducing " 45° " Street " "Side, Outlet " Tees " "Reducing " "Reducing " "Reducing " "A-way " Crosses " "Reducing " Bushings " Plugs " Solid Plugs " Countersunk Plugs "	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 4.50 4.50 5.70 1.65 1.55 1.75	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.35 2.35 2.55	21/ ₂ \$6.1! 7.66 6.89 18.50 8.69 12.33 15.40 3.50 5.00	5 \$100 0 125 111 0 30 5 144 0 17 0 20 0 25 0 4 0 7	3 .00 \$.50 .00 .00 .50 .00 .15	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 7.10 10.85	4 \$20.00 25.00 22.50 22.50 28.00 35.00 40.00 9.00 9.00 14.00
Size inches Elbows ea. "Reducing " 45° " Street " "Side, Outlet " Tees "Reducing " "Reducing " "Reducing " "A Prop, Female " "Reducing " "A Prop, Female " "Reducing " "Bushings " Plugs " Solid Plugs " Countersunk Plugs " Caps "	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 5.70 1.65 1.55 2.15 1.75	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.30 3.25 2.60	21/ ₂ \$6.1! 7.66 6.83 18.50 8.69 12.30 15.44 3.50 5.00	5 \$100 0 125 5 11 0 30 5 14 0 17 0 20 0 25 0 5 0 4 0 7	3 .00 \$.50 .00 .00 .50 .00 .15 .90 .15	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 7.10 10.85	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00 9.00 14.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female " Beducing " Reducing " Reducing " Prop, Female " A-way " Crosses " Reducing " Bushings " Plugs Solid Plugs Countersunk Pluss Caps " Lock-nuts	11/ ₂ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 5.70 1.65 2.15 1.75 1.75	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.35 2.35 2.60 1.85	21/ ₂ \$6.1! 7.66 6.8! 18.56 8.6! 10.90 12.33 15.40 3.56 5.00 4.50 3.7!	5 \$100 0 125 5 111 0 300 5 144 0 177 0 200 250 0 250 0 40 0 7	3 .000 \$.500 .000 .500 .500 .15 .900 .15	31/2 316.00 20.00 22.30 28.00 40.00 7.10 7.10 10.85 8.85 7.35	4 \$20.00 25.00 22.50 22.50 22.50 35.00 40.00 9.00 9.00 14.00 9.00
Size inches Elbows ea. "Reducing average A5° average "Street average A5° average "Side, Outlet average Averag	11/ ₂ \$2.25 2.85 2.55 3.35 3.15 3.95 8.20 4.50 5.70 1.65 1.75 1.75 1.75 1.75	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.30 3.25 2.55 2.65 2.30	21/ ₂ \$6.1! 7.66 6.8: 	5 \$100 0 125 5 111 0 30 5 14 5 17 0 20 0 25 0 4 0 7 0 7 0 6 5 5 0 8	3 .00 \$.50 .00 .00 .50 .00 .15 .90 .15	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 7.10 10.85 8.85 7.35 14.00	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00 14.00 11.00 9.00 18.00
Size inches Elbows ea. " Reducing " 45° " Street " Drop, Female" " Side, Outlet " Tees " Reducing " Prop, Female " " 4-way " Reducing " Reducing " Solid Plugs " Countersunk Plugs Caps Lock-nuts " Peducers " Couplings "	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 4.50 5.70 1.65 2.15 1.75 1.75 1.75 1.80	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.30 3.25 2.55 2.60 1.85 3.10	21/ ₂ \$6.1! 7.66 6.85 10.90 12.30 15.44 3.50 3.50 5.00 4.50 4.50	55 \$100 122 111 112 112 112 112 112 112 112	3 .00 \$.50 .00 .00 .50 .00 .15 .90 .15 .40 .00	31/2 316.00 20.00 22.30 28.00 40.00 7.10 10.85 4.00 11.25	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00 9.00 14.00 11.00 9.00 14.25
Size inches Elbows ea. "Reducing " 45° " Street " "Street " "Side, Outlet " Tees " "Reducing " "A Prop, Female " "A Prop, Female " "Reducing " "Reducing " Bushings " Plugs " Solid Plugs " Countersunk Plugs " Countersunk Plugs " Caps " Lock-nuts " Peducers " Couplings " "R. & L. "	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 5.70 1.65 1.75 1.75 1.75 1.30 2.15	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.35 2.35 2.55 2.60 1.85 3.10 3.25 2.60 3.35	21/ ₂ \$6.1! 7.66 6.85 10.90 12.30 15.44 3.50 5.00 4.50 5.75 5.44 4.50	\$100 122 111 112 112 112 112 112 112 112	3 .00 \$.50 .00 .00 .50 .00 .15 .90 .15 .40 .50	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 10.85 7.35 74.00 11.25	4 \$20.00 25.00 22.50 22.50 28.00 35.00 40.00 50.00 9.00 9.00 14.00 11.00 9.00 18.00 14.25
Size inches Elbows ea. " Reducing " 45° " Street " " Drop, Female" " Side, Outlet " Tees " Reducing " " A-way " Crosses " " Reducing " Bushings " Plugs " Countersunk Plugs " C	11/ ₂ \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 8.20 4.50 1.65 1.75 1.75 1.30 2.15 1.30 2.15 1.30 2.15	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 3.25 2.35 2.35 2.45 2.60 3.35 8.25 8.25	21/ ₂ \$6.1! 7.66 6.8! 18.56 8.69 12.36 15.46 3.55 5.00 4.56 3.75 5.46 4.56	\$ \$100 122 112 112 112 112 112 112 112 112	3 .00 \$1.50 .00 .00 .00 .00 .00 .00 .00 .00 .00 .0	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 7.10 10.85 8.85 7.35 14.00 11.25	4 \$20.00 25.00 22.50 28.00 35.00 40.00 50.00 9.00 14.00 11.00 9.00 14.25
Size inches "Reducing " "45° " "Street " "Drop, Female" "Side, Outlet " Tees "Reducing " "Reducing " "Reducing " "Reducing " "Reducing " Bushings " Plugs " Solid Plugs " Countersunk Pl	11/2 \$2.25 2.85 2.55 3.35 4.10 6.80 3.15 3.95 5.70 1.65 1.75 1.75 1.75 1.30 2.15	2 \$3.35 4.15 3.65 4.90 6.00 10.00 4.65 5.85 12.50 6.70 8.30 2.35 2.35 2.35 2.55 2.60 1.85 3.10 3.25 2.60 3.35	21/ ₂ \$6.1! 7.66 6.85 10.90 12.30 15.44 3.50 5.00 4.50 5.75 5.44 4.50	\$ \$100 122 55 111	3 .00 \$.50 .00 .00 .50 .00 .15 .90 .15 .40 .50	31/2 316.00 20.00 20.00 22.30 28.00 40.00 7.10 10.85 7.35 74.00 11.25	4 \$20.00 25.00 22.50 22.50 28.00 35.00 40.00 50.00 9.00 9.00 14.00 11.00 9.00 18.00 14.25

Right and left elbows and right and left return bends will be furnished at an advance of 25 per cent over above list prices.

*Elbows, tees, crosses, bushings and reducers, reducing more than two sizes will be furnished at an advance of 25 per cent over above reducing list prices.

Finished Brass Railing Fittings No 1 Elbows



140. 1	LIDOWS	
Price Each	Size Inches	Price Each
\$.40	11/4	\$1.20
.60	1½ 1½	1.60
.80	2	2.50
		The second secon

No. 2 Side Outlet Elbows

Size Inches

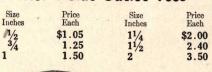
Size	Price	Size	Price
Inches	Each	Inches	Each
1/2	\$.75	1½ 1½	\$1.70
1/2 3/4	1.00	11/2	2.00
1	1.10	2	3.00





		No. 3	Tees	
	Size	Price	Size	Price
	Inches	Each	Inches	Each
	1/ ₂	\$.60	11/ ₄	\$1.70
	3/ ₄	.85	11/ ₂	2.00
No.	1 4	1.10	2'2	3.00

No. 4 Side Outlet Tees







	No. 5	Crosses	
Size	Price	Size	Price
Inches	Each	Inches	Each
1/2	\$1.05	11/ ₄	\$2.00
3/4	1.25	11/ ₂	2.40
1	1.50	2 -	

No. 6 Side Outlet Crosses

Size Inches	Price Each	Size Inches	Price Each
1/2	\$1.20	11/4	\$2.25
1/2 3/4	1.45	1½ 1½	3.00
1	1.70	2	4.00





1.70 2	4.00	
	No. 7	Flanges
Size Inches	Price Each	Size Inches
1/2	\$.26	11/4

No. 8 Square Floor Flanges

Size	Price	Size	Price
Inches	Each	Inches	Each
1/2 3/4	\$.75	11/4	\$1.35
3/4	.90	1½ 1½	1.75
1	1.00	2	2.50





No 9 Male or Female Acorns

	140. 3	Iviale	or remaie	ACOTHS
	Size	Price	Size	Price
	Inches	Each	Inches	Each
	1/2 3/4	\$.75	11/4	\$1.35
	3/4	.90	$\frac{11/4}{11/2}$	1.75
,	1	1.00	2	2.50

In ordering railing fittings, describe kind wanted by number and size.

Railing fittings will always be furnished with all openings tapped right-hand, unless otherwise specified. Railing fittings tapped right and left or left-hand will be charged for at 15 per cent additional, net.

Brass Globe and Angle Valves

Brass Disc

For Steam Working Pressures: 3 Inches and Smaller, 125 Pounds 31/2 and 4 Inches, 100 Pounds



Brass Cross Valves

Brass Disc

For Steam Working Pressures: 3-Inch and Smaller, 125 Pounds 31/4 and 4-Inch, 100 Pounds



The construction of these valves is such that they may be packed when wide open, under pressure without steam escaping.

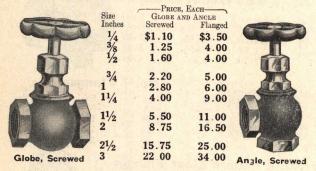
This valve is well proportioned, of good height, and sufficiently strong to stand steam working pressures, as given.

Size	Price Each	Size	Price Each
Inches	Screwed	Inches	Screwed
1/4 3/8 1/4	\$1.25	11/4	\$3.50
3/8	1.25	11/2	5.00
1/2	1.50	2	8.00
3/4	2.00	21/2	16.00
1	2.50	3	24.00

Brass Globe and Angle Valves

With Composition Discs

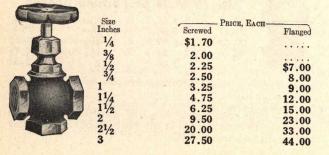
For 150 Pounds Steam Working Pressure



Brass Cross Valves

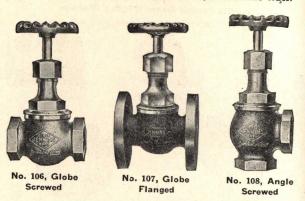
For 150 Pounds Steam Working Pressure

With Composition Discs



Jenkins Bronze Globe and Angle Valves

For 150 Pounds Steam Working Pressure, 250 Pounds Water



Jenkins Valves represent a distinct type as compared with the regrinding, bevel or flat-seated valves. Instead of using a solid metal clapper, they contain a disc holder, made of bronze or other suitable metal, and a removable disc, made of a softer material, preferably the Jenkins Composition Disc. The Jenkins disc in service presents a slightly yielding surface to the valve seat, and is flexible enough to adapt itself to any slight inequalities in the seat, thus insuring perfect contact.

Size Inches	PRICE, EACH————————————————————————————————————	igle Size	No. 106, Globe	No. 107, Globe No. 109, Angle Flanged
1/8 1/4 3/8	\$1.10 1.10 \$3.50 1.25 4.00	$1\frac{1}{4}$ $1\frac{1}{2}$	\$4.00 5.50 8.75	\$9.00 11.00
1/2 3/4 1	1.60 4.00 2.20 5.00 2.80 6.00	2½ 3	15.75 22.60	16.50 25.00 34.00

Jenkins Bronze Cross Valves

For 150 Pounds Steam Working Fressure, 250 Pounds Water

This valve contains a disc holder, made of bronze and a Jenkins disc. PRICE, EACH No. 110 Screwed No. 111 Flanged \$2.25 2.65 2.95 \$9.25 3.30 10.50 4.25 12.00 6.25 15.75 8.20 19.75 12.50 30.25 26.25 21/2 No. 110. Screwed 43.50 36.00 57.75

Jenkins Composition Discs

Made in several grades as follows: No. 93, a tough flexible disc for cold water, air and gas 50 to 250 pounds pressure or hot water 200° up to 50 pounds pressure.

No. 110, a semi-hard disc for hot water

250° up to 250 pounds pressure or cold water 250 to 400 pounds pressure.

No. 119, a dark red disc flexible under steam pressure, for saturated steam 150 pounds pressure not exceeding 366°.

Size In.	Price Each	Size In.	Price Each	Size In.	Price Each	Size In.	Price Each
1/4	\$.06	2	\$.36	6	\$2.00	16	\$8.00
1/2	.08	21/2	.48	7 8	2.40	18	10.00
3/8 1/2 3/4	.10	31/2	1.00	9	2.80 3.60	20 22	12.00 15.00
1	.12	4	1.20	10	4.50	24	18.00
11/4	.18	4½ 5	1.40	12 14	5.00		
- /2			1.00	14	7.00		

Lunkenheimer Bronze Globe, Angle and Cross Valves

Regrinding, Union Bonnet

For 200 Pounds Steam Working Pressure







No. 408, Angle

Seating surfaces are regrindable; disc and all other parts are renewable; stuffing box can be repacked when valves are under pressure and full open.

In the ½-inch and smaller sizes, disc and stem are integral; the stuffing box is provided with a gland follower in sizes ¾-inch and larger, and a round slotted bonnet ring and plain rim handwheel instead of the hexagon ring and ball handwheel are furnished in sizes 2½-inch and larger.

	SCRE	WED, PRICE	. Елен		SCRE	WED, PRICE,	Figur	
Size Inches	No. 407 Globe	No. 408 Angle	No. 588 Cross	Size Inches	No. 407 Globe	No. 408 Angle	No. 588 Cross	
1/8	\$.70 .70	\$.70 .70	\$1.00	11/2	\$3.90	\$3.90	\$5.10	
1/8 1/4 3/8 1/2 3/4	.85	.85	1.00	2 21/2	6.20 12.00	6.20	8.00	
1/2	1.15	1.15	1.50	3	16.50	16.50	24.00	
3/4	1.45	1.45	2.00	31/2	30.00	30.00	38.00	
11/	2.00	2.00	2.70	4	40.00	40.00	50.00	
11/4	2.80	2.80	3.50					

Lunkenheimer Bronze Globe, Angle and Cross Valves

Regrinding, Union Bonnet

For 300 Pounds Steam Working Pressure



No. 409, Globe



No. 557, Angle

Seating surfaces are regrindable; disc and all other parts are renewable; stuffing box can be repacked when valves are under pressure and full open.

In the $\frac{1}{2}$ -inch and smaller sizes, disc and stem are integral; the stuffing box is provided with a gland follower in sizes $\frac{3}{4}$ -inch and larger, and a round slotted bonnet ring and plain rim handwheel instead of the hexagon ring and ball handwheel are furnished in sizes $\frac{2}{1}$ -inch and larger.

~.	Scri	EWED, PRIC			SCREY	VED, PRICE,	EACH
Size Inches		No. 557 Angle	Cross	Size Inches	No. 409 Globe	No. 557 Angle	No. 620 Cross
3/4	\$.90	\$.90	\$1.20	11/2	\$7.10	\$7.10	\$8.60
1/4 3/8 1/2 3/4	1.10 1.50	1.10	1.30	2 21/2	10.90 19.50	10.90	13.10
3/4	2.30	2.30	2.90	3	29.00	19.50	23.40 34.50
1	3.60	3.60	4.50	31/2	42.30	42.30	
11/4	5.10	5.10	6.30	4	53.90	53.90	

Lunkenheimer Bronze Globe and Angle Valves

Regrinding, Union Bonnet
For 150 Pounds Steam Working Pressure



No 580, Globe



No. 581, Angle

In the ½-inch and smaller sizes, the disc and stem are integral; the stuffing box is provided with a gland follower in sizes ¾-inch and larger, and a round slotted bonnet ring and plain rim handwheel instead of the hexagon ring and ball handwheel are furnished in sizes 2½-inch and larger.

a.	Face to	Center	Diam.	FLANGED, H	RICE, EACH
Size Inches	Face Inches	to Face Inches	Flanges	No. 580	No. 581
			Inches	Globe	Angle
3/8	27/8	$1\frac{21}{32}$	21/2	\$2.80	\$2.80
3/4	35/8	$1\frac{31}{32}$	3	3.40	3.40
3/4	43/16	$\frac{21}{4}$	31/2	4.70	4.70
11/	45/8	$2\frac{17}{32}$	4	5.80	5.80
11/4	4/8	213/16	41/2	8.00	8.00
11/2	5/8	$3\frac{3}{32}$	5	11.00	11.00
2	6/8	35/8	6	14.50	14.50
2½ 3	713/16	43/16	7	24.00	24.00
	8/16	41/2	71/2	29.00	29.00
31/2	93/16	516	81/2	45.00	45.00
4	101/16	5 1/16	9	63.00	63.00

Lunkenheimer Bronze Globe and Angle Valves

Regrinding, Union Bonnet
For 200 Pounds Steam Working Pressure



No. 407, Globe



No. 408, Angle

Seating surfaces are regrindable; disc and all other parts are renewable; stuffing box can be repacked when valves are under pressure and full open.

In the ½-inch and smaller sizes, disc and stem are integral; the stuffing box is provided with a gland follower in sizes ¾-inch and larger, and a round slotted bonnet ring and plain rim handwheel instead of the hexagon ring and ball handwheel are furnished in sizes 2½-inc' and larger

	SCREWED, P	RICE, EACH		SCREWED.	PRICE, EACH
Size Inches	No. 407 Globe	No. 408 Angle	Size Inches	No. 407 Globe	No. 408 Angle
1/8	\$.70	\$.70	11/2	\$3.90	\$3.90
1/8	.70	.70	2	6.20	6.20
3/8 1/2 3/4	.85	.85	21/2	12.00	12.00
1/2	1.15	1.15	3	16.50	16.50
3/4	1.45	1.45	31/2	30.00	30 00
1	2.00	2.00	4	40.00	40.00
11/4	2.80	2.80		10	EN HILL

Lunkenheimer Renewo Bronze Globe, Angle and Cross Valves Union Bonnet

For 200 Pounds Steam Working Pressure





No. 73, Globe

No. 72, Angle

Seating surfaces are regrindable; the Valve-nickel seat and disc and all other parts are renewable.

In the ½-inch and smaller sizes, the disc locknut is omitted, the back of the Valve-nickel swivel disc being burnished over the head of the stem; the stuffing box is provided with a gland follower in sizes ¾-inch and larger; a slotted bonnet ring is furnished instead of the hexagon ring on sizes 2-inch and larger; self-cooling malleable iron handwheel is provided on sizes up to 2-inch, inclusive, larger sizes having plain rim handwheel.

SCREWED, PRICE, EACH				SCREWED, PRICE, EACH			
Size Inches	No. 73 Globe	No. 72 Angle	No. 71 Cross	Size Inches	No. 73 Globe	No. 72 Angle	No. 71 Cross
1/4	\$1.10	\$1.10	\$1.70	11/4	\$4.00	\$4.00	\$4.75
1/ ₄ 3/ ₈ 1/ ₂	1.25	1.25	2.00	11/2	5.50	5.50	6.25
1/2	1.60	1.60	2.25	2	8.75	8.75	9.50
3/4	2.20	2.20	2.50	21/2	15.75	15.75	20.00
1	2.80	2.80	3.25	3	22.00	22.00	27.50

Lunkenheimer Renewo Bronze Globe, Angle and Cross Valves Union Bonnet

For 300 Pounds Steam Working Pressure





No. 16, Globe

No. 17. Angle

Seating surfaces are regrindable; the Valve-nickel seat and disc and all other parts are renewable.

In the ½-inch and smaller sizes, the disc locknut is omitted, the back of the Valve-nickel swivel disc being burnished over the head of the stem; the stuffing box is provided with a gland follower in sizes ¾-inch and larger; a slotted bonnet ring is furnished instead of the hexagon ring on sizes 2-inch and larger; self-cooling malleable iron handwheel is provided on sizes up to 1½-inch, inclusive, larger sizes having plain rim handwheel.

SCREWED, PRICE, EACH					SCREWED, PRICE, EACH		
Size Inches	No. 16 Globe	No. 17 Angle	No. 18 Cross	Size Inches	No. 16 Globe	No. 17 Angle	No. 18 Cross
1/4	\$1.60	\$1.60	\$2.10	11/4	\$6.50	\$6.50	\$7.80
3/8	1.70	1.70	2.30	11/2	9.00	9.00	10.50
1/4 3/8 1/2	2.50	2.50	3.40	2	14.00	14.00	16.00
3/4	3.80	3.80	4.60	21/2	25.00	25.00	29.00
1	4.90	4.90	6.00	3	36.00	36.00	42.00

Lunkenheimer Renewo Bronze Globe and Angle Valves

Union Bonnet

For 150 Pounds Steam Working Pressure





No. 70, Globe

No. 69, Angle

In the 3/8 and 1/2-inch sizes, the disc locknut is omitted, the back of the Valve-nickel swivel disc being burnished over the head of the stem; stuffing box is provided with a gland follower in sizes 3/4-inch and larger; a slotted bonnet ring is furnished instead of the hexagon ring on sizes 2-inch and larger; self-cooling malleable iron handwheel is provided on sizes up to 2-inch, inclusive, larger sizes having a plain rim handwheel.

	Face to	Center	Diam.	FLANGED, I	PRICE, EACH
Size In.	Face Inches	to Face Inches	Flanges Inches	No. 70 Globe	No. 69 Angle
3/8	3	$1\frac{21}{32}$	21/2	\$4.00	\$4.00
1/2	37/16	$1\frac{31}{32}$	3	4.00	4.00
3/4	4	21/4	31/2	5.00	5.00
1	49/16	$2\frac{17}{32}$	4	6.00	6.00
11/4	51/16	213/16	41/2	9.00	9.00
11/2	61/8	$3\frac{3}{32}$	5	11.00	11.00
2	71/4	35/8	6	16.50	16.50
21/2	8	43/16	7	25.00	25.00
3	9	41/2	71/2	34.00	34.00

Lunkenheimer Renewo Bronze Globe and Angle Valves

Union Bonnet

For 250 Pounds Steam Working Pressure





No. 19, Globe

No. 20, Angle

In the 3% and ½-inch sizes the back of the Valve-nickel swivel disc is burnished over the head of the stem; the stuffing box is provided with a gland follower in sizes ¾-inch and larger; a slotted bonnet ring is furnished on sizes 2-inch and larger; self-cooling malleable iron handwheel is provided on sizes up to 1½-inch, inclusive, larger sizes having plain rim handwheel

handw	heel.				
Size In.	Face to Face Inches	Center to Face Inches	Diam. Flanges Inches	FLANGED, P No. 19 Globe	RICE, EACH No. 20 Angle
3/8 1/2	3½ 3¾	$2\frac{3}{32}$ $2\frac{9}{32}$	$\frac{3}{3\frac{1}{2}}$	\$7.00 7.50	\$7.00 7.50
1 3/4	4½ 5½	29/16 27/8	4 41/2	10.00 12.00	10.00
1½ 1½	59 ₁₆	$\frac{3\frac{5}{32}}{3^{11}/6}$	5	16.00 23.50	16.00 23.50
21/2	8 9	4 4 9/6	$\frac{6\frac{1}{2}}{7\frac{1}{6}}$	34.00 48.00	34.00 48.00
3	10	57/16	81/4	68.00	68.00

Lunkenheimer Bronze Renewo Full-way Type Globe and Angle Valves

Union Bonnet, Renewable Monel Seat and Disc For 200 Pounds Steam Working Pressure







No. 1559, Angle

Service conditions oft-times require the installation of a valve which at times can be used as a throttle (partly open) and at other periods will permit of a full way opening.

The monel metal seat and disc of the valves hereon illustrated are especially constructed to resist to the greatest possible degree, the wear incident to wire drawing, which occurs when the valves are used for throttling purposes.

	SCREWED, P	SCREWED, PRICE, EACH			
Size In.	No. 1523 Globe	No. 1559 Angle	Size In.	No. 1523 Globe	No. 1559 Angle
1/4 3/8	\$5.50	\$6.00	11/4	\$13.00	\$14.50
3/8	6.00	6.60	11/2	17.00	18.75
1/2 3/4	6.50	7.25	2	24.00	26.50
3/4	7.50	8.25	21/2	45.00	50.00
1	9.50	10.50	3	65.00	75.00

Lunkenheimer Bronze Renewo Full-way Type Globe and Angle Valves

Union Bonnet, Renewable Monel Seat and Disc For 300 Pounds Steam Working Pressure



No. 1524, Globe



No. 1560, Angle

Service conditions of t-times require the installation of a valve which at times can be used as a throttle (partly open) and at other periods will permit of a full way opening.

The monel metal seat and disc of the valves hereon illustrated are specially constructed to resist to the greatest possible degree, the wear incident to wire drawing, which occurs when the valves are used for throttling purposes.

Screwed, Price, Each				SCREWED, PRICE, EACH	
Size	No. 1524	No. 1560	Size	No. 1524	No. 1560
In.	Globe	Angle	In.	Globe	Angle
1/4	\$7.00	\$7.70	1	\$12.00	\$13.25
1/4 3/8 1/2 3/4	7.50	8.25	11/4	15.50	17.00
1/2	8.00	8.80	11/2	20.00	22.00
3/4	9.50	10.50	2	33.00	37.00

Lunkenheimer Bronze Renewo Throttling Type Globe and Angle Valves

Union Bonnet, Renewable Monel Seat and Disc For 200 Pounds Steam Working Pressure



No. 1521, Globe



No. 1561, Angle

The seat opening in these valves is reduced to approximately that of the inside diameter of one size smaller pipe than that of the valve size.

Lunkenheimer Throttling Type Renewo Valves are intended for such service where a restricted flow is at all times required. Particularly are they adapted for installation where the flow contains grit or consists of hot water or heavily saturated steam and where the reduced seat opening sufficiently throttles the flow permitting the disc to be raised to its limit, thereby eliminating the severe wear caused by wire drawing between the seating surfaces when the valves are but slightly open.

	SCREWED, P.	RICE, EACH		SCREWED. P	RICE, EACH
Size In.	No. 1521 Globe	No. 1561 Angle	Size In.	No. 1521 Globe	No. 1561 Angle
1/4 3/8 1/2 3/4	\$8.00	\$9.00	1	\$11.50	\$12.75
3/8	8.25	9.25	11/4	15.50	17.25
1/2	8.50	9.50	11/2	19.50	21.50
3/4	9.50	10.50	2	26.50	29.50

Lunkenheimer Bronze Renewo Throttling Type Globe and Angle Valves

Union Bonnet, Renewable Monel Seat and Disc For 300 Pounds Steam Working Pressure



No. 1522, Globe



No. 1562, Angle

The seat opening in these valves is reduced to approximately that of the inside diameter of one size smaller pipe than that of the valve size.

than that of the valve size.

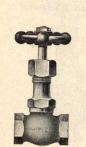
Lunkenheimer Throttling Type Renewo Valves are intended for such service where a restricted flow is at all times required. Particularly are they adapted for installation where the flow contains grit or consists of hot water or heavily saturated steam, and where the reduced seat opening sufficiently throttles the flow permitting the disc to be raised to its limit, thereby eliminating the severe wear caused by wire drawing between the seating surfaces when the valves are but slightly open.

	SCREWED, I	PRICE, EACH		SCREWED, PRICE, EACH		
Size In.	No. 1522 Globe	No. 1562 Angle	Size In.	No. 1522 Globe	No. 1562 Angle	
	\$9.50	\$10.50	1	\$14.50	\$16.00	
1/4 3/8 1/2 3/4	9.75	10.75	11/4	18.00	20.00	
1/2	10.00	11.00	11/2	22.50	25.00	
3/4	11.50	12.75	2	35.50	40.00	

Lunkenheimer Bronze Needle Valves

With Gland Only **Bronze Stem**

For 200 Pounds Pressure





Sectional View



With Indicator Wheel and Union Nos. 1567 & 1568

These valves are provided with gland follower in stuffing box and are furnished with bronze stem only.

The ¼, ¾, ½ and ¾ inch sizes have been approved by the Underwriters' Laboratories, Inc., for control of hazard-ous liquids. The Underwriters' Laboratories, Inc., prescribe 50 pounds per square inch as the maximum pressure for hazardous liquid equipment.

			PRICE,	EACH-	
	Diam. of	BALL WHEEL	PATTERNS	INDICATOR WHEN	EL PATTERNS
in the second	Seat	FEMALE	ENDS-	WITH U	
Size	Open-	No. 1205	No. 1206	No. 1567	No. 1568
Inches	ings, In.	Globe	Angle	Globe	Angle
1/4	3/16	\$3.00	\$3.15	\$7.00	\$7.25
3/8	1/4	3.30	3.50	8.00	8.30
1/2	5/16	4.00	4.40		
3/4	7/16	5.50	6.00		
1	9/16	9.00	9.50		

Lunkenheimer Bronze Needle Valves

Without Gland Bronze or Steel Stem



No. 906, Globe

3/64 1/16

\$2.60

2.75







No. 907, Angle

Globe

\$3.25

4.00

Angle

4.40

\$3.50

The Lunkenheimer standard for the included angle of the tapered seating face at end of stem is 30°.

Valves with steel stem have smaller seat openings than valves with bronze stem and provide finer regulation. Diameters of seat openings are given below.

Bronze Stem, Rough Body

			,		Jii Dou	y	
				-PRIC	E, EACH-		
	Diam. Seat		FEMALE E			FEMALE ON OU	Union
Size In.	Openings Inches	No. 906 Globe	No. 907 Angle		o. 908 Cross	No. 909 Globe	No. 910 Angle
1/8	1/8	\$2.40	\$2.50		3.75	\$3.50	\$3.60
1/4	3/16	2.50	2.65	4	1.00	3.80	4.00
3/8 1/2	/4	2.80	3.00		5.00	4.50	4.75
1/2	5/16	3.50	3.80	7	7.00	6.50	6.80
		Steel	Stem,	Rougl	Body		
	Seat	PRICE, FEMALE	EACH		Seat	PRICE	EACH E ENDS
Size In.	Openings Inches	No. 906 Globe	No. 907 Angle	Size Inches	Openings Inches	No. 906 Globe	No. 907

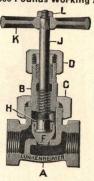
\$2.70

2.90

Lunkenheimer High Duty Bronze Globe and Angle Valves

Regrinding For Liquids, Air and Gases

For 2000 Pounds Working and 4000 Pounds Non-shock Pressures





No. 720, Globe

No. 721, Angle

The seating surface is regrindable; disc and all other parts are renewable. Area throughout the body is in excess of that of the connecting pipe. The stuffing box can be repacked when valve is under pressure and full open. Union connection between the connections of the connection o tion between the body and bonnet strengthens the neck of the body and facilitates assembling and disassembling for regrinding or repairs. Disc in check valve is well guided and perfect seating is insured.

Size	SCREWED, 1	PRICE, EACH		SCREWED.	PRICE, EACH
Inches	No. 720 Globe	No. 721 Angle	Size Inches	No. 720 Globe	No. 721 Angle
1/4	\$7.60	\$7.60	1	\$19.50	\$19.50
3/8	8.30	8.30	11/4	32.00	32.00
1/2 3/4	10.50 15.00	10.50 15.00	11/2	45.00	45.00
/4	10.00	15.00	2	70.00	70.00

Lunke heimer High Duty Bronze Check Valves

Regrinding For Liquids, Air and Gases

For 2000 Pounds Working and 4000 Pounds Non-shock Pressures







No. 816, Angle

The seating surface is regrindable; disc and all other parts are renewable.

The area throughout the body is in excess of that of the connecting pipe. The stuffing box can be repacked when valve is under pressure and full open.

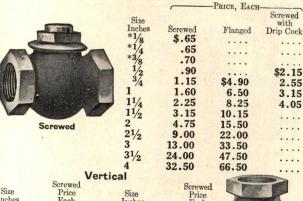
Union connection between the body and bonnet strengthens the neck of the body and facilitates assembling and disassembling for regrinding or repairs.

The disc in check valve is well guided, and perfect seating

Size Inches 1/4 3/8	SCREWED, Pr No. 815 Horizontal \$4.10 4.60	No. 816 Angle \$4.10 4.60	Size Inches 1 11/4	SCREWED, PR No. 815 Horizontal \$11.00 17.50	No. 816 Angle \$11.00
1/2	5.50	5.50	1½	23.50	23.50
3/4	8.60	8.60	2	38.00	38.00

Brass Check Valves

Brass Discs
For Steam Working Pressures: 3 Inch and Smaller, 125 Pounds;
3½ and 4 Inch, 100 Pounds Horizontal



		Licai	
Size Inches	Screwed Price Each	Size Inches	Screwed Price Each
*1/8	\$.72	11/4	\$2.52
*3/	.72	11/2	3.50
1/2	1.00	2	5.30
3/4	1.26	21/2	10.00 14.40
1	2.52		14.40
			The state of the s



3

*These sizes are ball pattern.

Brass Swing Check Valves With Brass or Leather Disc

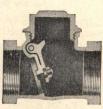
1.26

1.80

For Working Pressures: Brass Disc, 125 Pounds Steam; Leather Disc, 175 Pounds Water

May be used in a horizontal position

	SCRD., PR. With	With Leather Disc	Size In.	Scrd., Pri With Brass Disc	CE, EACH With Leather Disc
3/8 1/2	\$1 80 2.00	\$2.40 2.65	11/2	\$4.75 6.75	\$6.00 8.15
1/2 3/4	2.25	2.90	21/2	15 00	0.15
11/4	3.65	3 60 4.65	3	24.00	



10.00

14.40

Valves for cold water preferably should have leather discs. For hot water or steam, brass discs should be used. Unless otherwise specified on order, swing check valves will be furnished with brass discs.

No. 614 Lunkenheimer Bronze Swing Joints

Hexagon End Pattern
For 100 Pounds Gas or Liquid Pressure



Inlet and outlet ends are regularly furnished threaded for same size pipe.

The flow ports are open regardless of the relative position of the inlet and outlet ends.

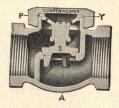
Swing joints finished all over are procurable on special order at prices varying with quantities.

Size Inches 1/4 3/8 1/2	Price, Each Part Fin. \$1.90 2.20 2.50	Size Inches 3/4 1 11/4	Price, Each Part Fin. \$3.50 5.00 6.50	Size Inches 1½2	Price, Each Part Fin. \$9.00 15.40
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Lunkenheimer Bronze Check Valves

Horizontal, Angle and Vertical Regrinding, Screwed Cap

For 200 Pounds Steam Working Pressure





No. 414, Horizontal

No 415, Angle

Seating surfaces are regrindable; all parts are renewable; areas throughout the body are in excess of that of the connecting pipe; the disc is well guided at both the top and bottom, insuring perfect seating.

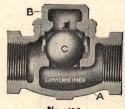
On the 2½-inch and larger sizes, a round slotted cap is provided instead of the hexagon cap shown.

~	SCREWED, PRICE, EACH				
Size Inches	No. 414 Horizontal	No. 415	No. 418		
1/		Angle	Vertical		
1/8	\$.50	\$.50	\$.50		
1/4	.50	.50	.50		
3/8 1/2 3/4	.60	.60	.60		
1/2	.85	.85	.85		
3/4	1.15	1.15	1.15		
1	1.55	1.55	1.55		
11/4	2.30	2.30	2.30		
11/2	3.25	3.25	3.25		
2	5.20	5.20	5.20		
2½ 3	10.00	10.00	10.00		
	14.00	14.00	14.00		
31/2	19.75	19.75	19.75		
4	30.75	30.75	30.75		

Lunkenheimer Bronze Ball Check Valves

Horizontal, Angle and Vertical Screwed Cap

For 200 Pounds Steam Working Pressure







No. 416 Horizontal

No. 739 Angle

No. 740 Vertical

These valves embody features essential to successful operation under service conditions for which the ball type of check valve is suitable.

The non-ferrous metal balls are manufactured under the most modern method, each is specially gauged and the guide is designed to minimize wear.

a.		- SCREWED, PRICE, EACH-	
Size Inches	No. 416 Horizontal	No. 739	No. 740
Inches		Angle	Vertical
1/8	\$.85	\$.85	\$.85
1/4	.95	.95	.95
3/8	1.10	1.10	1.10
1/2	1.60	1.60	1.60
3/4	2.30	2.30	2.30
1	3.50	3.50	3.50
11/4	5.30	5.30	5.30
11/2	7.50	7.50	7.50
2	11.50	11.50	11.50
2½ 3	18.00	18.00	18.00
3	27.00	27.00	27.00

No. 554 Lunkenheimer Bronze Swing **Check Valves**

Regrinding, Screwed Cap For 200 Pounds Steam Working Pressure



The seating surfaces are regrindable and all parts are renewable. Two side plugs are provided which act as bearings for the disc carrier pin and these being also renewable, the perfect seating of the disc can at all times be maintained. The valves may be connected in either a horizontal or vertical position.

1/4 \$1.25 1 \$2.25 2½ \$	crewed rice, Ea. 11.50 16.00
---------------------------	------------------------------

No. 624 Lunkenheimer Bronze Swing Check Valves

Regrinding, Screwed Cap For 300 Pounds Steam Working Pressure

The seating surfaces are regrindable and all parts

Two side p as bearings for these being a seating of th maintained.

The valves a horizontal or vertical position.

are renewable.	
or the disc carrier pin and also renewable, the perfect the disc can at all times be	LUHKENHEIMER
may be connected in either	

Size Inches	Screwed Price, Ea.	Size Inches	Screwed Price, Ea.	Size Inches	Screwed Price, Ea.
1/4	\$2.00	1	\$4.00	21/2	\$18.30
1/ ₄ 3/ ₈ 1/ ₂ 3/ ₄	2.10 2.20	$\frac{11/4}{11/2}$	5.60 7.50	3	28.30
3/4	2.90	2	11.00		

Jenkins Bronze Rapid Action Valves

Renewable Composition Disc

Bronze spindle with hardened steel tip, steel yoke, malleable iron lever with cam hardened.



Opens full with one pull of lever and stays open automatically. For laundry service, garages, etc.

Size In.	Price Each	Size In.	Price Each	Size In.	Price Each
1/2 3/4	\$7.00	11/4	\$12.00	21/2	\$28.00
3/4	9.00	11/2	15.00		
1	10.00	2	20.00		

Brass Gate Valves

Quick Opening, Doube Disc, Parallel Seats For 125 Pounds Steam Working Pressure

This valve is of a heavy pattern. The winged nut at the top of the stem locks the disc at any desired opening.

	Screwed		Screwed
Size	Price	Size	Price
In.	Each	In.	Each
3/4	\$3.60	2	\$11.80
1	4.80	21/2	20.25
11/4	6.20	3	30.00
11/2	8.50		



Brass Gate Valves

Double Disc, Parallel Seats

For Steam Working Pressures: 3-Inch and Smaller, 125 Pounds; 3½-Inch and Larger, 100 Pounds



May be repacked when under pressure.

1					
	Size Inches	Screwed Price Each	Size		е, Елсн
	Thenes	Lach	Inches	Screwed	Flanged
	1/4	\$1.45	2	\$7.30	\$25.00
	3/8	1.45	21/2	13.00	33.00
1	1/2	1.65	3	19.00	39.00
1	3/4	2.05	*31/2	43.00	68.00
	1	2.80	*4	58.00	83.00
	11/4	3.70	*5	110.00	135.00
	11/2	5.00	*6	165.00	190.00

*Have flanged bonnet and non-rising stem.

No. 427 Lunkenheimer Bronze Gate Valves

Double Disc, Rising Stem Inside Screw, Screwed Bonnet

For 150 Pounds Steam Working Pressure

larger have gland in stuffing box.

Ball and socket bearing between discs provides greatest degree of flexibility in seating engagement, insuring a tight valve. Discs are

guided by ribs cast within body.

Stuffing box is repackable when valve is under pressure and full open. Sizes 1-inch and

All parts are renewable. Pressure can be

en from ei	ther en	d.		
No. 427		No. 427		No. 427
Screwed	Size	Screwed	Size	Screwed
Price, Ea.	In.	Price, Ea.	In.	Price, Ea.
\$1.10	1	\$2.50	21/2	\$14.00
1.10	11/4	3.50	3	20.00
1.30	11/2	5.00		
1.90	2	7.50		
	No. 427 Screwed Price, Ea. \$1.10 1.10 1.30	No. 427 Screwed Size Price, Ea. In. \$1.10 1 1.10 1 ¹ / ₄ 1.30 1 ¹ / ₂	$ \begin{array}{c cccc} \text{No. 427} & \text{No. 427} \\ \text{Screwed} & \text{Size} & \text{Screwed} \\ \text{Price, Ea.} & \text{In.} & \text{Price, Ea.} \\ \textbf{\$1.10} & \textbf{1} & \textbf{\$2.50} \\ \textbf{1.10} & \textbf{11/4} & \textbf{3.50} \\ \textbf{1.30} & \textbf{11/2} & \textbf{5.00} \\ \end{array} $	Screwed Price, Ea. Size In. Screwed Price, Ea. Size In. S

No. 768 Lunkenheimer Bronze Gate Valves Wedge Disc, Stationary Stem, Inside Screw Screwed Bonnet

For 200 Pounds Steam Working Pressure

This valve is of the wedge disc, double seated type, permitting pressure to be taken from either end.

The disc is well guided by ribs cast within

A gland is provided in the stuffing box of the 34-inch and larger sizes.

Size In.	No. 768 Screwed Price Each	Size In.	No. 768 Screwed Price Each	Size In.	No. 768 Screwed Price Each
1/4	\$1.70	1	\$3.00	21/2	\$17.00
1/4 3/8	1.70	11/4	4.20	3	24.00
1/2	1.80	11/2	6.00		
3/4	2.30	2	9.00		



No. 771 Lunkenheimer Bronze Gate Valves Wedge Disc, Stationary Stem, Inside Screw Screwed Bonnet

For 300 Pounds Steam Working Pressure

This valve is of the wedge disc, double seated type, permitting pressure to be taken from either end. The disc is well guided by ribs cast within the body.

All parts are renewable, including the seat rings on sizes 1-inch and larger. The stuffing

box is repackable under pressure when the valve is full open. A gland is provided in stuffing box of 3/4-inch and larger sizes.

	No. 771		No. 771		No. 771
Size	Screwed	Size	Screwed	Size	Serewed
In.	Price, Ea.	In.	Price, Ea.	In.	Price, Ea.
1/4	\$3.75	1	\$6.40	21/2	\$23.00
3/8	3.75	11/4	8.00	3	33.00
	3.90	11/2	10.50		
3/4	5.20	2	15.20		

Lunkenheimer Bronze Gate Valves Wedge Disc, Rising Stem, Outside Screw Screwed Yoke Bonnet

For Steam Working Pressures: Screwed, 200 Pounds; Flanged, 150 Pounds





No. 831, Screwed

No. 832, Flanged

Being of the wedge disc, double seated type, these valves will take the pressure from either end.

The disc is well guided by ribs cast within the body.

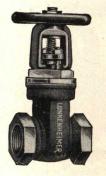
All parts are renewable, including the seat rings on the 1-inch and larger sizes. The stuffing box is repackable under pressure when the valve is full open.

01	Face to Face	Diam.	PRICE,	Each——
Size Inches	Flanged Inches	Flanges Inches	No. 831 Screwed	No. 832 Flanged
3/4	31/2	31/2	\$3.50	\$6.90
1	41/8	4	5.50	8.80
11/4	41/2	41/2	6.30	12.00
11/2	$\frac{4^{15}}{5^{7}}$ 8	5	9.00	15.50
21/2	63/4	- 6	14.00 21.00	24.00
3	73/8	71/2	31.00	33.00 45.00

Lunkenheimer Bronze Gate Valves

Wedge Disc, Rising Stem, Outside Screw Screwed Yoke Bonnet

For Steam Working Pressures: Screwed, 300 Pounds; Flanged, 250 Pounds





No. 834, Screwed

No. 835, Flanged

Being of the wedge disc, double seated type, these valves will take the pressure from either end.

The disc is well guided by ribs cast within the body. All parts are renewable, including the seat rings on the 1-inch and larger sizes. The stuffing box is repackable under pressure when the valve is full open.

Size	Face	Diam.	PRICE	EACH-
Inches	Flanged Inches	Flanges Inches	No. 834 Screwed	No. 835 Flanged
1	43/4	41/2	\$8.25	\$17.50
$\frac{11/4}{11/2}$	5	5	11.50	22.50
2 2	534	6	13.00	31.00
21/2	$\frac{61}{2}$	$\frac{6\frac{1}{2}}{7\frac{1}{2}}$	18.00	41.00
3 2	71/4	81/4	30.00 40.00	58.00 72.00

Brass Garden Hose Faucets



	-	-	
Angl	0	non	ina

Size In.	Straight Opening	EACH—Angle Opening
1/2 3/4	\$1.65 1.65	\$1.65 1.65
1 11/4	2.20 3.40	2.20
11/2	4.75 7.00	4.75
21/2	15.00	15.00

Furnished with Chicago hose thread California or iron pipe thread furnished at regular prices.

Other styles extra.

When ordering, specify thread required.

Chicago Pattern Brass Hose Valves



Furnished with rough body, tee handles and leather discs, in either hose or iron pipe thread on hose end and iron pipe thread on lower end invariably. The 21/2-inch size only can also be had with any fire department thread in hose end.

Valves with wheel handles or with soft rubber discs at slight additional charge. Valves nickel-plated at extra charge.

Size	Price	Size	Price
Inches	Each	Inches	Each
1	\$3.15	2	\$7.00
11/4	3.70	21/2	8.50
11/2	4.75		

No. 15 Single Hydrant Brass Gate Valves

This gate valve is made with a full 212-inch waterway, valve lifting out of place. It is used next to the hydrant so that one stream may be stopped without interfering with the others.

When ordering, always supply thread information to avoid delay.

Style A B	Wheel Handle, with Swivel " with out	Price Each \$22.00
CD	Swivel: Tee Handle, with Swivel " without Swivel	22.00 22.00 22.00



No. 572 Lunkenheimer Bronze Butterfly Valves

For 125 Pounds Steam Working Pressure

Designed for use only for regulating the flow through the body. The disc construction does not permit of even a practically tight joint between the disc and seat.

Is provided with bronze disc and stuffing box and with blank end steel stem. Malleable iron operating lever will be fitted to the stem and charged separately when valve is ordered with lever. Price includes screwed ends

	uuo.	
Face to Face Inches	Center of Body to Top of Stem, In.	Price Each
25/16 211/2	213/16	\$3.10 4.40
31/8	313/16	5.65
	4 49/16	6.75
	Face to Face Inches 25/16 211/16	to Face Body to Top of Stem, In. 25/16 213/16 35/16 31/8 313/16 4



No. 430 Lunkenheimer Handy Bronze Gate Valves

For 75 Pounds Steam Working Pressure



A quick opening valve for handling water, oils, lactic and other classes of liquids and low pressure steam.

The ball and socket bearing between the discs is the most flexible and practical wedging principle and prevents many unusual conditions from inter-fering with the functioning of the disc.

Size Inches	No. 430 Screwed Price, Each	Size Inches	No. 430 Screwed Price, Each	Size Inches	No. 430 Screwed Price, Each
1/2 3/4	\$1.60 1.80	1½ 2	\$5.00 7.50	31/2	\$40.00
1 11/4	2.50 3.50	2½ 3	13.50 19.00		

No. 628 Lunkenheimer Handy Iron Body **Gate Valves**

Bronze Mounted

For 75 Pounds Steam Working Pressure

A quick opening valve for handling water, oils, lactic and other classes of liquids and low pressure steam.

		No. 628
Size	Face to Face	Screwed
Inches	Inches	Price, Each
2	41/4	\$7.00
2½ 3	41/2	12.00
	5	15.00
31/2	$6\frac{1}{8}$	18.00
4	65/16	21.00
4½ 5	$6\frac{1}{2}$	25.00
	75/16	30.00
6	81/4	42.00
8	$9\frac{3}{4}$	90.00



No. 431 Lunkenheimer Bronze Heavy Lever Gate Valves

For Working Steam Pressures Up to 175 Pounds



This valve was designed as a throttle for steam traction, hoisting and road engines, but the successful results obtained have encouraged a more extensive use.

The simple and practical ball and socket wedging principle of the disc construction provides positive seating of the discs under trying service conditions.

Size . Inches	Price, Each No. 431 Screwed	Size Inches	Price, Each No. 431 Screwed
1/2 3/4	\$2.50	11/2	\$7.00
3/4	3.00	2	10.00
1	4.00	21/2	19.00
11/4	5.00		20.00

No. 432 Lunkenheimer Iron Body Heavy Lever Gate Valves

Bronze Mounted

For Working Steam Pressures Up to 3 Inches, 175 Pounds; $3\frac{1}{2}$ and 4 Inches, 125 Pounds; 5 and 6 Inches, 100 Pounds

This simple and practical ball and socket wedging principle of the disc construction provides positive seating under trying service conditions.

Size Inches	Face to Face Inches	Price, Each No. 432 Screwed
2	$5\frac{1}{2}$	\$8.50
2½ 3	63/8	16.00
31/2	$\frac{61/4}{63/4}$	20.00
4	71/	25.00 30.00
5	81/2	35.00
6	91/4	40.00



Iron Body Globe and Angle Valves



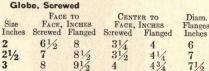
Globe, Screwed

Brass Mounted With Brass Disc

For 125 Pounds Steam Working Pressure

6

71/2





Angle, Screwed PRICE, EACH

GLOBE	AND ANGLE
Screwed	Flanged
\$5.40	\$7.00
7.35	9.00
9 80	12 50

Iron Body Globe and Angle Valves

Composition Disc **Brass Mounted**

For 125 Pounds Steam Working Pressure



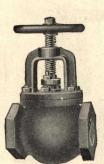
Angle, Screwed

ize	FACE TO INCI		CENTER T		Diam. Flanges		CE, EACH
In.	Screwed	Flanged	Screwed	Flanged	In.	Screwed	Flanged
1/2	6½ 8 8¼	91/2	3½ 4 4½ 8	4 ³ / ₄ 5	7 7½	\$7.25 11.00 16.00	\$8.50 13.00 18.00

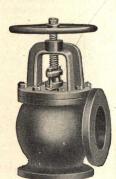
Iron Body Globe and Angle Valves

With Yoke-Brass Disc and Trimmings

For 125 Pounds Steam Working Pressure



Globe, Screwed



Angle, Flanged

Size Inches	IN	TO FACE CHES Flanged	IN	R TO FACE ICHES Flanged	Diam. Flanges Inches		, EACH ND ANGLE Flanged
2	$6\frac{1}{2}$	8	31/4	4	6	\$7.00	\$8.60
21/2	7	$8\frac{1}{2}$	31/2	41/4	7	9.00	10.75
3	8	91/2	4	43/4	71/2	12.50	15.00
31/2	9	101/2	41/2	51/4	81/2	15.25	18.50
4	10	111/2	5	53/4	9	19.00	22.50
41/2	$10\frac{1}{2}$	12	51/4	6	91/4	24.00	27.50
5	111/4	13	55/8	61/2	10	27.00	31.00
6	13	14	61/2	7	11	37.50	42.00
7	141/2	16	71/4	8	121/2	63.00	68.00
8	16	17	8	81/2	131/2	72.00	77.00
10	183/4	20	93/8	10	16	114.00	123.00
12	211/4	24	105/8	12	19	170.00	187.00
14		28		14	21		350.00
16		32		16	231/2		475.00
					, -		

Iron Body Globe and Angle Valves

Composition Disc With Yoke, Brass Mounted

For 150 Pounds Steam Working Pressure







Angle, Screwed

Size	FACE TO FACE INCHES		CENTER TO FACE INCHES		Diam. Flanges	PRICE, EACH GLOBE AND ANGLE	
In.	Screwed	Flanged	Screwed	Flanged	In.	Screwed	Flanged
21/2	8	91/2	4	43/4	7	\$12.00	\$14.00
3	81/4	10	41/8	5	71/2	16.75	18.50
31/2	$9\frac{1}{2}$	11	43/4	51/2	81/2	19.50	21.50
4	101/2	12	51/4	6	9	24.00	26.00
4½ 5	1114	13	55/8	61/2	91/4	32.00	34.00
5	$12\frac{1}{4}$	14	61/8	7	10	40.00	42.00
6	14	16	7	8	11	48.00	50.00
7	17	18	81/2	9	121/2	80.00	80.00
8		$19\frac{1}{2}$		93/4	131/2	90.00	90.00
10		241/4		121/4	16	130.00	130.00
12	• • • •	$27\frac{1}{2}$		1334	19	185.00	185.00

Lunkenheimer Iron Body Globe and Angle Valves

Bronze Mounted, Outside Screw, Flanged Yoke Bonnet For 125 Pounds Steam Working Pressure; 450° F. Total Temperature



No. 1120, Globe Screwed



No. 1121, Angle Screwed

Seating surfaces are regrindable; the seat, disc and all other parts are renewable; the stuffing box can be repacked when valves are under pressure and full open.

				CIT CIT		PRICE,	ЕАСН
Size	FACE TO INCI			TO FACE	Diam. Flanges	No. 1120, Globe No. 1121,	No. 1123, Globe No. 1124,
Inches	Scrd.	Flgd.	Serd.	Flgd.	In.	Angle Screwed	Angle Flanged
2	63/8	73/4	33/16	31/2	6	\$11.50	\$13.00
21/2	73/8	83/4	31/16	43/	7	15.00	
3	83/8	91%	43/	43/			17.00
31/2	9	101/2	11/	-/4	71/2	18.50	21.00
4	10		4/2	51/4	81/2	24.50	28.00
41/2	F170 F1	113/8	5	51/16	9	31.00	35.00
4/2	111/8	121/8	59/16	61/16	91/4	38.00	43.00
5	12	123/4	6	63/8	10	46.00	51.00
6	137/8	143/8	615/16	73/2	11	61.00	66.00
7		161/8	10	81/16	121/2		
8		1914	77	83/4			96.00
10		241/4	100		131/2		130.00
12				101/8	16		190.00
14	• • • •	$27\frac{1}{2}$		12	19		280.00

Lunkenheimer Iron Body Globe and Angle Valves

Bronze Mounted, Outside Screw, Flanged Yoke Bonnet

For 175 Pounds Working Steam Pressure



No. 1126, Globe Screwed



No. 1127, Angle Screwed

Seating surfaces are regrindable; the seat, disc and all other parts are renewable; the stuffing box can be repacked when valves are under pressure and full open.

						PRICE, E	ACH
Size In.		ro Face res Flgd.		R TO FACE	Diam. Flanges	No. 1126, Globe No. 1127, Angle	No. 1129 Globe No. 1130 Angle
			100000000000000000000000000000000000000	Flgd.	In.	Screwed	Flanged
2	79/16	93/4	313/16	47/8	61/2	\$14.00	\$16.00
2½ 3	9	11	41/2	51/2	71%	18.00	20.50
3	107/16	121/4	51/		012		
			-/4	61/8	8/4	23.00	26.00
31/2	$11\frac{3}{4}$	13	57/8	$6\frac{1}{2}$	9	30.00	34.00
4	$12\frac{5}{8}$	135/8	65/16	613/16	10	38.00	42.00
4 ¹ / ₂ 5	135/8	141/2	613/16	71/4	101/2	46.00	52.00
	141/2	153/4	71/4	77/8	11	57.00	64.00
6	161/4	171/2	81/8	83/	121/2	74.00	81.00
7		191/4	-/0	95/8	14		115.00
8			100	101/			
•		$21\frac{3}{4}$		10/2	15		155.00

Lunkenheimer Iron Body Globe and Angle Valves

Bronze Mounted, Outside Screw, Flanged Yoke Bonnet

For 250 Pounds Working Steam Pressure



No. 881, Globe Screwed



Screwed

Seating surfaces are regrindable; the seat, disc and all other parts are renewable; the stuffing box can be repacked when valves are under pressure and full open.

						PRICE	, EACH-
Size	FACE T	O FACE HES		R TO FACE	Diam. Flg.	No. 881, Globe No. 882, Angle	No. 884, Globe
In.	Serd.	Flgd.	Scrd.	Flgd.	In.	Screwed	Flanged
2	83/16	93/4	41/8	47/8	61/2	\$29.00	\$31.00
21/2	105/8	111/2	53/8	53/4	71/2	33.00	35.00
3	113/4	$12\frac{1}{2}$	57/8	61/4	81/4	37.00	40.00
31/2	123/4	131/2	63/8	63/4	9	46.00	51.00
4	13	14	$6\frac{1}{2}$	7	10	55.00	59.00
41/2		15		71/2	101/2		67.00
5		$15\frac{3}{4}$		77/8	11		78.00
6		$17\frac{1}{2}$		83/4	121/2		100.00
7		$19\frac{1}{4}$		95/8	14		140.00
8		213/4		101/2	15		185.00

Lunkenheimer Iron Body Globe and Angle Valves with Interior By-Pass

Bronze Mounted, Outside Screw Flanged Yoke Bonnet

For 250 Pounds Steam Working Pressure





No. 326, Globe

No. 359, Angle

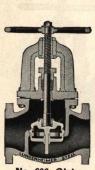
Valves with interior by-pass should be connected so that pressure is taken above the disc.

Seating surfaces are regrindable; the seat, disc and all other parts are renewable; the stuffing box is repackable under pressure when the valves are full open and areas throughout the body are in excess of that of the connecting

a.	Face to	Center to	Diam.	FLANGED, I	PRICE, EACH
Size Inches	Face Inches	Face Inches	Flanges Inches	No. 326 Globe	No. 359 Angle
5	$15\frac{3}{4}$	77/8	11	\$91.00	\$91.00
6	171/2	83/4	121/2	120.00	120.00
7	191/4	95/8	14	170.00	170.00
8	$21\frac{3}{4}$	$10\frac{1}{2}$	15	215.00	215.00
10	$25\frac{3}{8}$	$12\frac{1}{4}$	171/2	340.00	340.00
12	29	14	201/2	435.00	435.00

Lunkenheimer Steel Monel Mounted Globe and Angle Valves

Outside Screw, Flanged Yoke Bonnet For 300 Pounds Steam Working Pressure







No. 607, Angle

The seating surfaces are regrindable; the seat, disc and all other parts are renewable and the stuffing box is repackable under pressure when the valve is full open.

Size Inches	Face to Face Inches	Center to Face Inches	Diameter Flanges Inches	FLANGED, PE No. 606 Globe	No. 607 Angle
2	93/4	47/8	61/2	\$110.00	\$110.00
21/2	$11\frac{1}{2}$	53/4	71/2	130.00	130.00
3	$12\frac{1}{2}$	$6\frac{1}{4}$	81/4	160.00	160.00
31/2	131/2	63/4	9	200.00	200.00
4	14	7	10	230.00	230.00
41/2	15	71/2	101/2	280.00	280.00
5	$15\frac{3}{4}$	77/8	11	300.00	300.00
6	171/2	83/4	$12\frac{1}{2}$	360.00	360.00
7	191/4	95/8	14	470.00	470.00
8	213/4	101/2	15	580.00	580.00

Lunkenheimer Ferrenewo Iron Body Globe and Angle Valves

Union Bonnet

For 150 Pounds Working Steam Pressure







No. 1022, Angle

Seating surfaces are regrindable; the Valve-Nickel seat and disc and all other parts are renewable.

In the ½-inch and smaller sizes, the disc locknut is omitted, the back of the swivel disc being burnished over the head of the stem; the stuffing box is furnished with a gland follower in sizes 34-inch and larger, and a slotted bonnet ring is furnished on the 2-inch size.

	Face to	Center	Scr Price	EWED EACH		Face to	Center	SCR.	EACH
Siz	e Face	to Face	No. 1021	No. 1022	Size			No. 1021	Vo. 1022
In	Inches	Inches	Globe	Angle	In.	Inches	Inches	Globe	Angle
1/	4 29/16	13/16	\$1.10	\$1.10	11/2	51/4	27/16	\$5.50	\$5.70
3/3/3/3/	3 211/16	15/16	1.25	1.25	2	61/4	3	8.75	8.55
1/	2 3	17/16	1.60	1.60	*21/2	73/8	311/16	17.00	17.00
3/		15/8	2.20	2.20	*3	83/8	43/16	22.00	22.00
1	41/8	115/16	2.80	2.80	*4	10	5	40.00	40.00
11/	4 434	21/4	4.00	4.00					

*Sizes 21/2, 3 and 4-inch are of outside screw and yoke construction.

Lunkenheimer Ferrenewo All Iron Globe and Angle Valves

Union Bonnet

For 150 Pounds Working Pressure



No. 1113, Globe



No. 1114, Angle

Made entirely of ferrous materials and designed for use in handling cyanides, creosote, alkaline solutions, etc., such as attack materials of bronze or brass alloys.

The seating surfaces are regrindable and all parts, including the seat ring, are renewable. The stuffing box is repackable under pressure when the valves are full open.

	Face to	Center	SCREWED, 1	PRICE, EACH
Size Inches	Face Inches	to Face Inches	No. 1113 Globe	No. 1114 Angle
1/4	29/6	13/16	\$1.60	\$1.60
3/8	211/16	15/16	1.70	1.70
3/2	3	1 16	1.90	1.90
1 74	41/	115%	2.10 2.50	2.10
11/4	43/	21/4	3.30	2.50 3.30
11/2	51/4	276	4.40	4.40
2	61/4	3	6 30	6 30

Lunkenheimer Iron Body Ferrenewo Full-way Type Globe and Angle Valves

Union Bonnet, Renewable Monel Seat and Disc

For 150 Pounds Steam Working Pressure







No. 1563, Angle

These valves are recommended for such service where at times throttling of the flow is required and at other periods a full-way flow is necessary.

The monel seat and disc are so constructed that they will, to the maximum degree, withstand the severe service to which they are subjected when the valves are used for throttling purposes (partly open).

· Ct•	Face to	Center	Screwed, Pr	RICE, EACH
Size In.	Face	to Face Inches	No. 1525 Globe	No. 1563 Angle
1/4	29/16	13/16	\$5.00	\$5.50
3/8	211/16	15/16	5.25	5.75
1/2	3	17/16	5.50	6.00
3/4	39/16	1%	6.00	6.60
11/	41/8	1 15/16	7.75	8.50
11/4	51/	21/4	10.50	11.75
1½ 2	61/	27/16	14.00	15.50
4	0/4	3	19.00	21.00

Lunkenheimer Iron Body Ferrenewo Throttling Type Globe and Angle Valves Union Bonnet, Renewable Monel Seat and Disc For 150 Pounds Steam Working Pressure



No. 1536. Globe



No. 1564, Angle

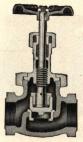
The Throttling Type Ferrenewo Valves have a reduced seat opening which is approximately that of the inside diameter of one size smaller pipe than that of the valve size.

They are intended for such service where a restricted flow is at all times required. Particularly are they adapted for installation where the flow contains grit or consists of hot water or heavily saturated steam, and where the reduced seat openings sufficiently throttle the flow permitting the disc to be raised to its limit, thereby eliminating the severe wear caused by wire drawing between the seating surfaces when the valves are but slightly open.

Size	Face to	Center	Screwed, P	
In.	Face Inches	to Face Inches	No. 1536 Globe	No. 1564 Angle
1/4	29/16	13/16	\$7:00	\$7.75
3/8	211/16	15/16	7.25	8.00
3/4	3	17/16	7.50	8.25
3/4	39/16	15/8	8.00	8.80
11/	41/8	1 15/16	9.75	10.75
11/4	43/4	$2\frac{1}{4}$	13.00	14.50
11/2	51/4	27/16	16.50	18.00
2	61/4	3	21.50	24.00

Lunkenheimer Steel Monel Mounted Globe and Angle Valves

Screw Ends, Union Bonnet For 400 Pounds Steam Working Pressure







No. 1452, Angle

Made with steel body, monel bonnet and union bonnet ring, rolled monel stem, forged monel seat and disc.

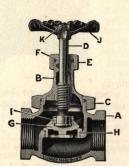
Seating surfaces are regrindable and all parts are renewable, including seat and disc. Pressure may be taken either above or below the disc. Valves can be repacked under pressure when wide open.

	Face to	Center	PRICE	E.EACH—
Size Inches	Face Inches Globe Valves	to Face Inches Angle Valves	No. 1451 Globe Valves	No. 1452 Angle Valves
* 1/4 * 3/8	$ \begin{array}{c} 25/6 \\ 21/2 \\ 31/4 \end{array} $	11/8 13/16	\$28.00 28.00	\$32.00 32.00
13/4	33/4 41/2	$1\frac{1}{17}\frac{1}{8}$ $2\frac{7}{32}$	40.00 45.00 55.00	44.00 50.00 60.00
11/2	51/8 59/6 613/6	$\frac{29_{16}}{2^{27}_{32}}$ $\frac{37_{16}}{3}$	70.00 90.00 130.00	82.00 100.00
*Sizes		h are made o	of all monel.	145.00

Lunkenheimer SA Anti-acid Globe Valves

Union Bonnet

For 50 Pounds Working Pressure







No. 1399, Flanged

Particularly for use in sludge acid lines. Also adapted for handling slightly acidulous alum solution, fatty acids, salt solutions, gasoline and mineral oils bearing corrosive sulphur.

Size		FACE TO FACE INCHES		PRICE, EACH—		
In.	Screwed	Flanged	Flanges In.	No. 1398 Screwed	No. 1399 Flanged	
1/2	25/8		Part of the	\$22.00		
3/4	31/4			24.00		
1	33/4	A STATE OF THE STA		28.00		
11/4	41/4			38.00	19 24 - 10	
11/2	43/4	61/8	5	45.00	\$75.00	
2	53/4	71/4	6	65.00	95.00	
2½ 3		8	7		125.00	
3		9	71/2		150.00	

Iron Body Check Valves

Horizontal and Vertical

For 125 Pounds Steam Working Pressure

Brass Trimmings







Vertical, Flanged

Horizontal valves, sizes 3-inch and smaller are furnished with a brass cap which is screwed into the body. Sizes 3½-inch and larger are furnished with an iron cap bolted to the body. Vertical valves are furnished with bolted cap.

	FACE 7	TO FACE	Diam.		PRICE.	Еасн-	1 1 1 1 1 1 N
Size	INCI		Flanges	Horn	ZONTAL	VERT	
In.	Screwed	Flanged	In.	Screwed	Flanged	Screwed	Flanged
2	$6\frac{1}{2}$	8	6	\$3.60			
21/2	7	81/2	7	6.50		\$9.50	
3	8	91/2	71/2	8.90	\$11.50	12.50	
31/2	9	101/2	81/2	12.25		17.00	
4	10	111/2	9	14.25	18.00	21.00	
41/2	101/2	12	91/4	19.00		30.00	
5	111/4	13	10	22.00	26.00	33.00	
6	13	14	11	30.00	35.00	40.00	\$45.00
7		16	121/2		50.00		67.00
8		191/2	131/2		62.00		78.00
10		241/2	16		115.00		135.00
12		271/2	19		175.00		
14		28	21		300.00		
							LY Y WY HIS PA

Iron Body Swing Check Valves With Brass or Leather Disc, Brass Seat

For Steam Working Pressures; 16-inch and Smaller, 125 Pounds; Above 16-inch, 100 Pounds



Screwed

For use with cold water, preferably should have leather faced discs; for hot water or steam, brass or brass faced discs should be used. Unless other-



Flanged

wise specified,
valves will be furnished with solid brass or brass taced discs.
Sizes 3 inches and smaller have solid brass discs; larger sizes, iron discs with brass faces.

May be used in horizontal position or for upward flow.

		TO FACE	Diam.			Елсн-	
Size		CHES	Flanges		RASS DISC	WITH LEA	THER DISC
In.		Flanged	In.	Screwed	Flanged	Screwed	Flanged
2	$6\frac{1}{2}$	8	6	\$11.00	\$13.00	\$12.00	\$14.00
21/2	7	81/2	7	12.00	14.50	13.50	16.00
3	8	91/2	71/2	13.50	17.00	15.50	19.00
31/2	9	101/2	81/2	17.50	21.00	20.00	23.50
4	10	111/2	9	20.00	24.00	23.00	27.00
41/2	101/4	12	91/4	26.00	30.00	29.50	33.50
5	111/4	13	10	30.00	34.00	34.00	38.00
6	121/2	14	11	36.00	41.00	40.00	45.00
7	14	16	121/2	55.00	60.00	61.00	66.00
8	16	191/2	131/2	70.00	75.00	77.50	82.50
10	183/4	241/2	16	110.00	115.00	120.00	125.00
12	211/4	271/2	19	160.00	168.00	172.00	180.00
14		28	21		340.00		
16		32	231/2		450.00		
18		36	25		600.00		
20		40	271/2		700.00		
24		48	32		1000.00		
36		60	383/4		1650.00		
					-	Alle Control of the Control	1

Lunkenheimer Iron Body Check Valves

Horizontal and Angle Bronze Mounted, Flanged Cap

For 125 Pounds Steam Working Pressure—175 Pounds
Water Working Pressure



No. 1136, Horizontal Screwed



No. 1137, Angle

Screwed
Seating surfaces are regrindable; all parts, including the bronze seat ring, are renewable; areas throughout the body are in excess of that of the connecting pipe; the disc is well guided and perfect seating is assured.

PRICE, EACH

						No. 1136 Hor.	No. 1138 Hor.
Size	In	O FACE	CENTER INC	HES	Diam. Flanges	No. 1137 Angle	No. 1139 Angle
In.	Serd.	Flgd.	Serd.	Flgd.	In.	Screwed	Flanged
2	63/8	73/4	33/16	37/8	6	\$9.00	\$10.50
21/2	73/8	83/4	311/16	43/8	7	12.00	14.00
3	83/8	91/2	43/16	43/4	71/2	14.50	17.00
31/2	9	101/2	41/2	51/4	81/2	20.50	24.00
4	10	113/8	5	511/16	9	26.00	30.00
41/2	111/8	$12\frac{1}{8}$	5%	61/6	91/4	33.00	38.00
5	12	$12\frac{3}{4}$	6	63/8	10	39.00	44.00
6	137/8	143/8	615/16	73/16	11	54.00	59.00
7		161/8		81/16	$12\frac{1}{2}$		89.00
8		$19\frac{1}{4}$		83/4	$13\frac{1}{2}$		120.00

Lunkenheimer Iron Body Check Valves

Horizontal and Angle Bronze Mounted, Flanged Cap

For 250 Pounds Steam Working Pressure—400 Pounds
Water Working Pressure



No. 900, Horizontal Screwed



No. 901, Angle Screwed

Seating surfaces are regrindable; all parts, including the bronze seat ring, are renewable; areas throughout the body are in excess of that of the connecting pipe; the disc is well guided and perfect seating is assured.

guided and perfect seating is assured.						PRICE, EACH	
Size In.		TO FACE CHES Flgd.	Serd.	TO FACE CHES Flgd.	Diam. Flanges In.	No. 900 Hor. No. 901 Angle Screwed	No. 902 Hor. No. 903 Angle Flanged
2	83/6	93/4	41/8	47/8	61/2	\$23.00	\$25.00
21/2	105/8	111/2	53/8	53/4	71/2	26.50	28.00
3	113/4	121/2	57/8	61/4	81/4	29.50	32.00
31/2	123/4	131/2	63/8	63/4	9	34.00	36.00
4	13	14	$6\frac{1}{2}$	7	10	42.00	45.00
41/2		15		71/2	101/2		50.00
5		153/4		77/8	11		60.00
6		$17\frac{1}{2}$		83/4	121/2		75.00
7		191/4		95/8	14		100.00
8		$21\frac{3}{4}$		101/2	15		130.00

No. 1116 Lunkenheimer All-Iron Horizontal Check Valves

Ferrenewo Screwed Cap

For 150 Pounds Working Pressure

For use in handling cyanides, creosote, alkaline solutions and other fluids which attack bronze but not iron. Valves with Ferrenewo screwed cap furnished in sizes 1/2 to 2 inches; No. 1116, horizontal, screwed.

Size Inches 1/4 3/8 . 1/2 3/4	Face to Face Screw End Valves Inches 29/16 211/16 3 39/16	Price Each \$1.50 1.60 1.75 1.90	Size Inches 1 11/4 11/2 2	Face to Face Screw End Valves Inches 4 ¹ / ₈ 4 ³ / ₄ 5 ¹ / ₄ 6 ¹ / ₄	Price Each \$2.25 3.00 4.00 5.75
/4	0710	1.50	4	01/4	5.75

No. 1471 Lunkenheimer Steel Lift Check Valves

Horizontal, Screwed Cap For 400 Pounds Steam Working Pressure 750° F. Total Temperature



Size 1/4 to 2 inches.

Screwed ends. Bodies are of steel; caps and guides of cast monel, and seats and discs of rolled monel. The 1/4 and 3/8inch are furnished in all monel.

The seating surfaces are regrinding and all parts, including seat and disc are renewable.

Prices upon application.

Lunkenheimer Steel Swing Check Valves Flanged Cap

For 300 Pounds Steam Working Pressure No. 1314, Bronze Mounted, 500° F. Total Temperature No. 1397, Monel Mounted, 750° F. Total Temperature

Bodies and caps are of steel.

Flange ends.

The trimmings of No. 1314 are of bronze and No. 1397 of monel.

All parts including seat and disc are renewable. Flanges have 16-inch raised face. They are regularly furnished spot faced and drilled in accordance with the proposed American 250pound working steam pressure steelflange standard.

	Face to Face		PRICE, H	ACH-
	Flange End Valves over	Diam-	No. 1314	No. 1397
Size	Raised Faces	eter	Steel	Steel
Inches	Inches	Flanges	Bronze	Monel
		Inches	Mounted	Mounted
11/2	91/8	6	\$100.00	*
2	$10\frac{1}{2}$	$6\frac{1}{2}$	115.00	*
$\frac{2^{1}/_{2}}{3}$	$11\frac{1}{2}$	$7\frac{1}{2}$	140.00	*
3	$12\frac{1}{2}$	81/4	160.00	*
31/2	$13\frac{1}{4}$	9	200.00	*
4	14	10	220.00	*
4 ¹ / ₂ 5	15	101/2	260.00	*
5	$15\frac{3}{4}$	11	270.00	*
6	$17\frac{1}{2}$	121/2	310.00	*
7	$19\frac{1}{4}$	14	410.00	*
8	21	15	440.00	*
10	26	171/2	*	*

†Standard practice of manufacturers urges the discontinuance of these numbers.

*Prices upon application.

Lunkenheimer Iron Body Swing Check

Bronze Mounted, Flanged Cap For 125 Pounds Steam Working Pressure For 175 Pounds Water Working Pressure



No. 228, Screwed



No. 933, Flanged

Seating surfaces are regrindable and all parts, including the bronze seat ring, are renewable.

Two side plugs are provided which act as bearings for the disc carrier pin and these also being renewable, the perfect seating of the disc can at all times be maintained.

The valves may be connected in either a horizontal or vertical position. Having a practically straightway flow channel, and the area throughout the body being in excess of that of the connecting pipe, an unobstructed flow is

Size			Diameter Flanges	PRICE, EACH		
Inches	Screwed	Flanged	Inches	No. 228 Screwed	No. 933 Flanged	
2 21/2	515/16	8	6	\$8.30	\$9.70	
3	77/8	9 101/8	7	10.50	12.00	
31/2	9	1015/16	7½ 8½	12.00 16.00	15.00	
4	915/16	113/4	9	20.00	20.00 25.00	
4 ¹ / ₂ 5	10^{11}_{16} 11^{12}_{2}	123/4	91/4	24.50	30.00	
6	121/16	$13\frac{7}{16}$ $14\frac{5}{6}$	10 11	27.50	36.00	
8	• • • • •	177/8	131/2	33.00	48.00 80.00	
10		241/2	16		120.00	

No. 1514 Lunkenheimer All Monel Mounted Swing Check Valves

Screw Ends—Screw Cap



For 400 Pounds Steam Working Pressure

All Monel Mounted Swing Check Valves are regularly furnished with cast monel body, cap, and disc carrier; rolled monel disc, disc carrier pin, side plugs, and disc locknut.

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No. 1598 Lunkenheimer Steel Monel Mounted Swing Check Valves

Screw Ends-Bolted Cap

For 400 Pounds Steam Working Pressure

Steel Monel Mounted Swing Check Valves have cast steel body, cap and disc carrier; forged monel disc and seat ring; rod monel disc carrier pin, side plugs, and disc locknut.



Size	Face to	Price	Size	Face to Face, In. Screwed 91/4	Price
Inches	Face, In.	Each	Inches		Each
11/2	Screwed	\$150.00	2		\$170.00

Lunkenheimer Iron Body Swing Check Valves

Bronze Mounted, Flanged Cap

For 250 Pounds Steam Working Pressure—400 Pounds
Water Working Pressure





No. 324, Screwed

No. 323, Flanged

Seating surfaces are regrindable and all parts, including the bronze seat ring, are renewable.

Two side plugs are provided which act as bearings for the disc carrier pin and these also being renewable, the perfect seating of the disc can at all times be maintained.

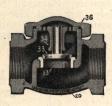
Size	FACE TO FACE INCHES		Diameter Flanges	No. 324	EACH
Inches	Screwed	Flanged	Inches	Screwed	Flanged
2	7	101/6	61/2	\$26.00	\$28.00
21/2	77/8	1176	71/2	30.00	32.00
2½ 3	87/8	1276	81/4	33.00	36.00
31/2	95/8	133/8	9	39.00	41.00
4	105/8	143/4	10	42.00	45.00
41/2		15%	$10\frac{1}{2}$		52.00
5	68.4	163/8	11		60.00
6		18	$12\frac{1}{2}$		72.00
7		. 20	14		95.00
8		213/4	15		115.00

Lunkenheimer Ferrenewo Iron Body Check Valves

Horizontal and Angle

Screwed Cap

For 150 Pounds Steam Working Pressure





No. 898, Horizontal

No. 899, Angle

The body is of iron, the seat and disc are of a special nickel alloy highly resistive to wear and corrosion, and the disc guide and cap are of bronze.

Seating surfaces are regrindable; the valve nickel seat and disc together with all other parts are renewable; areas throughout the body are in excess of that of the connecting pipe; the disc is well guided insuring perfect seating.

disc is well guided, insuring perfect seating.

Sizes ¼ to 1½ inches inclusive have hexagonal caps. The
2-inch size is furnished with a round slotted cap.

	Face to	Center	SCREWED, P	RICE, EACH
Size Inches	Face Inches	to Face Inches	No. 898 Horizental	No. 899 Angle
1/4	2%	13/6	\$1.10	\$1.10
3/8	211/16	15/16	1.20	1.20
1/2	3	17/6	1.30	1.30
3/4	3%	15/8	1.90	1.90
1	41/8	115/16	2.60	2.60
11/4	43/4	21/4	3.80	3.80
11/2	51/4	276	5.00	5.00
2	$6\frac{1}{4}$	3	8.30	8.30

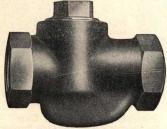
H-P-M Hydraulic Check Valves



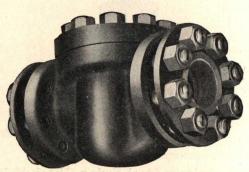


No. 1026 Male Ends

No. 1027, Male and Female Ends



No. 1028, Female Ends, Screwed



No. 1485, Female Ends, Flanged

No. 1026 illustrates a check valve made in the smaller sizes only with male pipe connections on both ends.

No. 1027 illustrates a valve with a male pipe connection on the inlet end and a female connection on the outlet end. The valve is furnished in the 1-inch size only.

No. 1028 shows the same type of valve but having female pipe connections on both ends. This is the regular type of check valve having screwed pipe connections and is made in all standard sizes.

No. 1485 shows the same type of check valve but having flanged connections. This valve is made in all sizes 2 inches and larger. Companion flanges for both ends are furnished as a part of all regular valves in this construction.

			Screwed.			Flanged	
	Kind		Max.			Max.	
Size	of	Serial	Pres.	C. alico	Serial	Pres.	
Inches	Body	No.	Pounds	No.	No.	Pounds	No.
1/2 1/2 3/4 3/4	Bronze	4289	5000	1026			
1/2	Bronze	8033	5000	1028			
3/4	Bronze	227	5000	1026	b		
3/4	Bronze	6397	5000	1028			
1	Bronze	544	5000	1027			
ī	Bronze	5592	5000	1028			
11/4	Bronze	4590	5000	1028			
11/2	Bronze	6709	5000	1028			
		5260			7710	4000	1405
2	Steel		5000	1028	7713	4000	1485
$2\frac{1}{2}$	Steel	5593	4500	1028	7442	4000	1485
3	Steel	5594	4500	1028	7443	4000	1485
$3\frac{1}{2}$	Steel	4382	4500	1028	7444	4000	1485
4	Steel	5595	4500	1028	7445	4000	1485
5	Steel				8724	3000	1485
6	Steel	10.7.7			7711	2500	1485
3/4	Bronze	5928	10000	1028			1100
1	Bronze	1358	10000	1028			
11/4	Steel	7446	10000	1028			
			and the second s			****	
11/2	Steel	7447	10000	1028			

Prices upon application.

Iron Body Gate Valves

Brass Trimmings, Wedge Gate, Non-Rising Stem For Steam Working Pressures: 16 Inch and Smaller, 125 Pounds; 18 Inch and Larger, 100 Pounds







Flanged

Size Inches		ro Face CHES Flanged	Diam. Flanges Inches	PRICE,	
2	57/16	7	6	\$10.00	\$12.00
21/2	57/8	71/2	7	11.50	13.50
3	61/8	8	71/2	14.00	
31/2	61/2	81/2	81/2		16.50
4	67/8	9	9	17.00	19.50
41/2	71/8	91/2		19.00	23.00
5	73/8	10	91/4	24.00	28.00
6	$7\frac{3}{4}$	101/2	10	27.50	31.50
6 7	01/		11	32.50	36.50
8	83/4	11	$12\frac{1}{2}$	45.00	49.00
9	014	111/2	$13\frac{1}{2}$	54.00	58.00
10	91/4	12	15	76.00	81.00
	9/8	13	16	90.00	95.00
12	$11\frac{5}{8}$	14	19	125.00	133.00
14		15	21		181.00
15		15	$22\frac{1}{4}$		220.00
16		16	231/2		260.00
18		17	25	Service Control of the	350,00
20		18	271/2	STATE OF THE STATE OF	425.00
22		19	291/2	With the last of t	530.00
24		20	32		600.00
26		23	341/4		
28	111.34.34	26	361/2		800.00
30	- 11 6 15 14	30	383/4		950.00
		00	00/4	•••••	1100.00

Iron Body Gate Valves

Brass Trimmings, Wedge Gate, Non-Rising Stem Open to the Left

For Water Working Pressures: 12 Inch and Smaller, 175 Pounds 14 and 16 Inch, 150 Pounds; 18 Inch and Larger, 120 Pounds Tested to 300 Pounds Hydraulic Pressure

Can be furnished open to the right, when so ordered, at same price. Hubs are furnished rough; bored hubs furnished at special price.



Hub Ends

	END T			Pric	CE, EACH
	INCH	HES	I. D.	Hn	B ENDS
Size	Without	With	Hub	Without	With
In.	By-Pass	Rv-Pa	ss In.	By-Pass	
		2) 10		The state of the s	By-Pass
2	81/2		31/4	\$10.00	
3	9		43/4	14.00	
4	101/4		55/8	19.00	
5	101/4		63/4	27.50	
6	103/4		77/8		
U	10/4		1/8	32.50	
_					
7	103/4		9	45.00	
8	12		10	54.00	
10	123/4		121/4	90.00	
12	131/2		143/8	125.00	
14	133/4				
14	10/4		$16\frac{1}{2}$	173.00	
	Tallett Try				
16	16	19	183/4	250.00	\$315.00
18	17	20	20%	340.00	415.00
20	17	21	23	415.00	500.00
	- The state of the				
24	18	22	271/4	590.00	690.00
30	30	30	34	1075.00	1225.00
107	A SHIP	00	-	10.0.00	1225.00

24

31

36

Iron Body Gate Valves

Outside Screw and Yoke Brass Trimmings, Wedge Gate

For Steam Working Pressures: 16-Inch and Smaller, 125 Pounds 18-Inch and Larger, 100 Pounds

The position of the stem indicates whether the valve is open, partly open or closed.

FI	a	n	g	e	d

		TO FACE	Diam.		PRIC	E, EACH —	
Size		NCHES	Flanges	WITH S	TEEL STEM		BRASS STEM
In.	Screwed	d Flanged	In.	Screwed	Flanged	Screwed	Flanged
2	57/16	7	6	\$17.50	\$19.50	\$19.00	\$21.00
21/2	57/8	71/2	7	19.00	21.00	20.50	22.50
3	61/8	8	71/2	22.00	24.50	23.50	26.00
31/2	$6\frac{1}{2}$	81/2	81/2	25.00	27.50	27.00	29.50
4	67/8	9	9	30.00	34.00	32.50	36.50
41/2	71/8	91/2	91/4	37.00	41.00	40.00	44.00
5	73/8	10	10	42.00	46.00	45.00	49.00
6	73/4	101/2	11	48.00	52.00	52.00	56.00
7	81/4	11	$12\frac{1}{2}$	64.00	68.00	69.00	73.00
8	83/4	111/2	131/2	80.00	84.00	86.00	90.00
9	91/4	12	15	105.00	110.00	113.00	118.00
10	97/8	13	16	122.00	127.00	131.00	136.00
12	115/8	14	19	160.00	168.00	172.00	180.00
14		15	21		236.00		255.00
15		15	221/4		285.00		310.00
16		16	$23\frac{1}{2}$		325.00		350.00
18		17	25		435.00		470.00
20		18	271/2		525.00		565.00
22		19	$29\frac{1}{2}$		650.00		700.00
24		20	32		725.00		775.00
26		23	341/4		950.00	1000	1025.00
28		26	361/2	100	1125.00	C. Daniel	1210.00
30		30	383/4		1300.00	phi spec	1400.00
			, -	200		The state of the s	

Iron Body Gate Valves Outside Screw and Yoke, Wedge Gate For 250 Pounds Steam Working Pressure

WITH STEEL WITH BRASS FACE TO FACE Diam.
INCHES Flanges
Scrd. Flgd. In. Flanges In. Screwed Flanged In. Flanged 6½ 7½ 8½ 9½ 11½ 11½ 11% $5\frac{1}{2}$ $6\frac{1}{4}$ 7\$34.50 6 35.50 61/2 71/2 \$35.50 38.00 \$41.00 41.00 43.50 47.00 3 31/2 54.00 57.00 61.00 10 70.00 75.00 4 72.00 77.00 83.00 121/4 131/2 131/4 101/2 97.00 104.00 5 15 11 100.00 105.00 113.00 15 11 157/8 121/2 161/4 14 161/2 15 157/8 122.00 131.00 16¹/₄ 16¹/₂ 147.00 158.00 187.00 201.00 9 $16\frac{1}{4}$ $17\frac{1}{2}$ 17 17 257.00 276.00 10 283.00 305.00 18 18 193/4 12 390.00 420.00 221/2 23 510.00 24½ 25½ 610.00 16 24 750.00 18 26 28 28 20 301/2



Flanged

With	By-Pass,	Steel	Stem	Only	y
			-	- Artistantina	

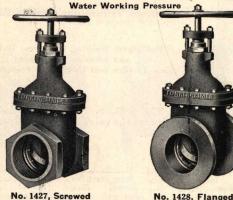
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		-,	, acon acoiii		
Size Inches	Flanged Price, Each	Size Inches	Flanged Price, Each	Size Inches	Flanged Price, Each
5	\$153.00	10	\$335.00	18	\$1050.00
6	170.00	12	455.00	20	1250.00
7	195.00	14	580.00	24	1700.00
8	240.00	15	680.00	A PARA SALE	
9	310.00	16	825.00		

Lunkenheimer Iron Body Gate Valves Bronze Mounted, Wedge Disc, Stationary Stem Inside Screw, Flanged Bonnet

For 125 Pounds Steam Working Pressure-175 Pounds



Stuffing box is repackable when valve is under pressure and full open. All parts renewable, including seat rings.

	FACE TO		Diam.	PRICE,	EACH-
Size In.	Screwed	Flanged	Flanges In.	No. 1427	No. 1428
		Flanged		Screwed	Flanged
2	51/4		6	\$19.00	\$22.00
2½ 3	53/4	71/2	7	22.00	25.00
3	65/16	8	71/2	26.00	30.00
31/2	65/8	81/2	81/2	34.00	38.00
4	71/16	9	9	38.00	42.00
4 ¹ / ₂ 5	73/8	91/2	91/4	51.00	54.00
5	-8	10	10	55.00	58.00
6	83/4	101/2	11	65.00	68.00
7		11	$12\frac{1}{2}$		95.00
8		111/2	131/2		105.00
10		13	16		175.00
12		14	19		275.00

Lunkenheimer Iron Body Gate Valves

Bronze Mounted, Wedge Disc, Rising Stem Outside Screw, Flanged Bonnet and Yoke



All parts renewable, including seat rings. Stuffing box repackable when valve is under pressure and full open.

]	FACE T	o Face	Diam.	Pri	CE, EACH		Face to	Diam.	No. 1430 Flgd.
Size		CHES	Flgs.	No. 1429	No. 1430	Size	Flgd.	Flgs.	Price
In.	Scrd.	Flgd.	In.	Serd.	Flgd.	In.	In.	In.	Each
2	51/4	7	6	\$33.00	\$36.00	8	111/2	131/2	\$160.00
21/2	53/4	71/2	7	37.00	40.00	10	13	16	240.00
3	65/6	8	71/2	41.00	45.00	12	14	19	330.00
31/2	65/8	81/2	81/2	53.00	57.00	14	15	21	450.00
4	71/6	9	9	60.00	64.00	16	16	231/2	625.00
41/2	73/8	91/2	91/4	79.00	82.00	18	17	25	850.00
5	8	10	10	84.00	87.00	20	18	271/2	1050.00
6	83/4	101/2	11	95.00	98.00	24	20	32	1500.00
7		11	121/2		140.00				

Lunkenheimer Iron Body Gate Valves Bronze Mounted Stationary Stem, Inside Screw, Flanged Bonnet For 175 Pounds Steam Working Pressure







No. 603, Flanged

The disc in these valves is perfectly guided by ribs cast within the body which eliminates dragging of the disc upon the seats when the valve is being opened or closed.

All parts renewable including seat rings. Stuffing box is repackable when valves are under pressure and full open.

These valves being of the wedge disc double seated pat-

tern, will take pressure from either end. *Face to FACE TO FACE Diam. PRICE, EACH INCRES Figs. No. 602 No. 603 Size Scrd. *Figd. In. Scrd. Figd. In. 4½ 65% 6½ \$14.00 \$16.00 7 53% 75% 7½ 17.50 19.50 8 Diam. Flanged Price Each Serd. 41/2 Flgd. 121/8 14 \$82.00 17.50 19.50 22.50 25.50 27.00 30.00 2½ 5¾ 3 5¾ 6 131/8 15 93.00 81/4 10 155/8 135.00 9 12 161/2 185.00 10 33.00 36.00 18 14 23 210.00 101/2 38.00 183/8 41.00 15 250.00 251/2 5 $10\frac{1}{4}$ 11 45.00 48.00 16 201/8 275.00 107/8 121/2 53.00 60.00 *Dimensions of flanged valves over raised faces.

Lunkenheimer Iron Body Gate Valves Bronze Mounted

Rising Stem, Outside Screw, Flanged Bonnet and Yoke
For 175 Pounds Steam Working Pressure—250 Pounds
Water Working Pressure



No. 642, Screwed



No. 643, Flanged

All parts renewable, including seat rings. Stuffing box is repackable when valves are under pressure and full open. Wedge disc double seated pattern. Pressure from either end.

	_	_					*Face to		No. 643
	FACE T	O FACE	Diam.	PRICE	, EACH		Face	Diam.	Flanged
Size	INCE		Flgs.	No. 642	No. 643	Size	Flgd.	Flgs.	Price
In.	Scrd.	*Flgd.	In.	Scrd.	Flgd.	In.	In.	In.	Each
2	41/2	65/8	61/2	\$17.00	\$19.00	7	121/8	14	\$92.00
21/2	53/16	75/8	71/2	20.50	22.50	8	131/8	15	110.00
3	57/16	81/2	81/4	23.50	26.00	10	155/8	171/2	155.00
31/2	511/16	85/8	9	32.50	35.50	12	161/2	201/2	200.00
4	6	9	10	39.00	42.00	14	18	23	220.00
41/2	63/16	95/8	101/2	46.50	49.50	15	183/8	241/2	250.00
5	75/16	101/4	11	52.00	55.00	16	201/8	251/2	300.00
6		107/8	121/2		68.00				
*Dimensions of flanged valves over raised faces.									

Lunkenheimer Iron Body Gate Valves Bronze Mounted, Wedge Disc, Stationary Stem Inside Screw, Flanged Bonnet For 250 Pounds Steam Working Pressure For 400 Pounds Water Working Pressure





No. 1433, Screwed

No.1434, Flanged

All parts renewable, including seat rings. Stuffing box repackable when valve is under pressure and full open. Disc accurately guided on machined guides. It does not drag over seat—no scoring or marring of seating surfaces.

Bronze to bronze contacts in yoke, gland and bottom of stuffing box prevent corrosion. No scoring of stem.

Size In.	FACE TO INC Serd.	Face Flgd.	Diam. Flgs. In.	PRICE No. 1433 Serd.	No. 1434 Flgd.	Size In.	Diam. Flgs. In.	Face to Face Flgd. In.	No. 1434 Flgd. Price Each
11/2	51/2	71/2	6	\$44.00	\$48.00	5	15	Commence of the last	\$160.00
2	6	81/2	61/2	46.00	50.00		157/8	121/2	180.00
$2^{1/2}$	65/8	91/2	71/2	56.00	60.00		161/4	14	250.00
3	71/4	111/8	81/4	70.00	75.00	8	161/2	15	280.00
$3\frac{1}{2}$	715/16	117/8	9	95.00	100.00	100	18	171/2	430.00
4	89/16	12	10	105.00	110.00	12	193/4	201/2	600.00
41/2		$13\frac{1}{4}$	101/2		150.00		10/4	2072	000.00
		0.00		1 2 200 3 4					

Lunkenheimer Iron Body Gate Valves Bronze Mounted, Wedge Disc, Rising Stem Outside Screw, Flanged Bonnet and Yoke For 250 Pounds Steam Working Pressure For 400 Pounds Water Working Pressure





No. 1435, Screwed

No. 1436, Flanged

All parts renewable; stuffing box repackable when valve is under pressure and full open. Disc accurately guided on machined guides.

Size In.	INC	o Face HES Flgd.	Diam. Flgs. In.	PRICE No. 1435 Serd.	E, EACH No. 1436 Flgd.	Size In.	Face to Face Flgd. In.	Diam. Flgs. In.	Price Each No. 1436 Flanged
11/2	$5\frac{1}{2}$	$7\frac{1}{2}$	6	\$64.00	\$68.00	6	157/8	121/2	\$220.00
2	6	81/2	$6\frac{1}{2}$	66.00	70.00	7	161/4		300.00
$2\frac{1}{2}$	65/8	$9\frac{1}{2}$	$7\frac{1}{2}$	76.00	80.00	8	161/2	15	340.00
3	$7\frac{1}{4}$	111/8	81/4	95.00	100.00	10	18	171/2	500.00
$3\frac{1}{2}$	715/16	117/8	9	125.00	130.00	12	193/4	201/2	
4	89/16	12	10	135.00	140.00	14	221/2	23	1000.00
41/2		$13\frac{1}{4}$	101/2		180.00	16	24	251/2	1400.00
5		15	11		190.00	18	26	28	1900.00

No. 1438 Lunkenheimer Iron Body Gate Valves with By-pass

Bronze Mounted, Wedge Disc, Rising Stem Outside Screw, Flanged Bonnet and Yoke

For 250 Pounds Steam Working Pressure



All parts are renewable, including seat rings.

The stuffing box is repackable when the valve is under pressure and full open.

The disc is accurately guided on machined guides. The disc does not drag over the seat so there is no scoring or marring of the seating surfaces.

Bronze to bronze contacts in the yoke, gland and bottom of the stuffing box prevent corrosion. There is no scoring of the stem.

Size Inches	Face to Face Flanged Inches	Diameter Flanges Inches	No. 1438 Flanged Price Each
6	157/8	121/2	\$390.00
7	$16\frac{1}{4}$	14	475.00
8	$16\frac{1}{2}$	15	550.00
10	18	171/2	720.00
12	193/4	$20\frac{1}{2}$	925.00
14	$22\frac{1}{2}$	23	1250.00
16	24	$25\frac{1}{2}$	1675.00
18	26	28	2300.00

Lunkenheimer Iron Body Gate Valves Bronze Mounted, Quick Operating, Sliding Stem

Flanged Bonnet For Steam Working Pressures: 2 to 3 Inches, 125 Pounds; 3½, 4, 5 and 6 Inches, 100 Pounds; 8 Inches, 75 Pounds; 10 and 12 Inches, 50 Pounds





No. 1579, Screwed



No. 1580, Flanged

Iron body, bonnet and gland; bronze stem, disc faces and seat rings; gland and stuffing box bronze bushed. Thumbscrew attachment holds disc in any desired position.

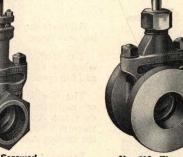
Size Inches	FACE TO	Flanged	Diam. Flanges Inches	No. 1579 No. 1580		
2	51/4	7	6	\$33.00	Flanged \$36.00	
2½ 3	53/4	7½ 8	7 71/2	38.00 43.00	41.00	
31/2	65/8	81/2	81/2	55.00	60.00	
5	7½6 8	10	9	60.00 85.00	65.00 88.00	
6	83/4	101/2	11	97.00	100.00	
10	4 . 3%	13	$13\frac{1}{2}$ 16		170.00 250.00	
12		14	19	9	375.00	

Lunkenheimer Clip Iron Body Gate Valves

Wedge Disc, Rising Stem, Inside Screw, Bolted **Bonnet**

For 100 Pounds Steam Working Pressure





No. 638, Flanged

This valve is double seated. All parts are renewable. The stuffing box is repackable when the valve is full open and under

The Lunkenheimer Clip Gate Valve is also procurable in the all-iron pattern for use in handling liquids which attack alloys

	PRICE, EACH		
	No. 638		
Inches Screwed Flanged Inches Screwed Flanged	anged		
$\frac{1}{2}$ 2 \$2.00 \$2.35			
1 $2\frac{1}{2}$ $3\frac{3}{6}$ 4 2.50 \$3	.00		
$1\frac{1}{4}$ $2\frac{3}{4}$ $3\frac{1}{2}$ $4\frac{1}{2}$ 3.50 4	.90		
	.00		
2 3½ 4 6 7.50 8	.50		
2½ 4 415/6 7 12.00 13	.50		
3 4 ³ / ₈ 5 ¹ / ₁₆ 7 ¹ / ₂ 15.00 16	.90		

Lunkenheimer Clip Iron Body Gate Valves

Bronze Mounted, Quick Operating, Wedge Disc **Bolted Bonnet**

For 50 Pounds Steam Working Pressure





No. 639. Screwed

No. 640, Flanged

This valve is double seated and takes pressure from either end

All parts are renewable. The stuffing box is repackable when the valve is full open and under pressure.

This valve is also procurable in the all-iron pattern for handling liquids which attack alloys of copper.

	FACE TO	FACE	Diameter	PRICE, EACH		
Size	Inci	HES	Flanges	No. 639	No. 640	
Inches	Screwed	Flanged	Inches	Screwed	Flanged	
1/2	2			\$2.00		
1/2 3/4	25/16	A		2.35		
1	$2\frac{1}{2}$	33/16	4	2.50	\$3.00	
11/4	23/4	31/2	41/2	3.50	4.90	
11/2	31/16	33/4	5	5.00	6.00	
2	31/2	4	6	7.50	8.50	
21/2	4	415/16	7	12.00	13.50	
3	43/8	51/16	71/2	15.00	16.90	

Lunkenheimer Clip All Iron Gate Valves

Quick Operating, Sliding Stem, Bolted Bonnet

For 50 Pounds Working Pressure



No. 321, Screwed

Designed for the handling of creosote, alkaline solutions, etc., such as attack brass or bronze alloys.

The steel clip which unites the body and bonnet enables quick and easy assembling and disassembling for cleansing and repairs and in addition gives strength and rigidity to the

	FACE T	FACE	Diam.	PRICE, EACH		
Size Inches	Screwed	Flanged	Flanges Inches	No. 321 Screwed	No. 320 Flanged	
1/2 3/4	2 25/6			\$2.00 2.35		
1	$2\frac{1}{2}$	33/16	4	2.50	\$3.00	
$\frac{11/4}{11/2}$	$\frac{234}{316}$	31/2	$\frac{41}{2}$	3.50 5.00	4.90. 6.00	
2 21/2	31/2	4 415/6	6	7.50	8.50	
3	43/8	51/16	71/2	12.00 15.00	13.50 16.90	

Lunkenheimer Clip All Iron Gate Valves Wedge Disc, Rising Stem, Inside Screw **Bolted Bonnet**

For 100 Pounds Working Pressure



No. 319, Screwed

Designed particularly for the handling of creosote, alkaline solutions, etc., such as attack brass or bronze alloys.

The steel clip which unites the body and bonnet enables quick and easy assembling and disassembling for cleansing and repairs and in addition provides strength and rigidity to the body.

FACE 7	ro FACE	Diam.	PRICE, EACH		
Screwed	Flanged	Flanges Inches	No. 319 Screwed	No. 318 Flanged	
2 25/6			\$2.00		
$2\frac{1}{2}$	33/16	4	2.50	\$3.00	
-/4		4½ 5		4.90 6.00	
$3\frac{1}{2}$	4	6	7.50	8.50	
4	415/16	7		13.50 16.90	
	Screwed 2 25/16 21/2 23/4 31/16 31/2 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Screwed Screwed Flanged Flanges Inches	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	

No. 1425 Lunkenheimer Steel Monel Mounted Gate Valves

Wedge Disc, Rising Stem, Outside Screw Flanged Bonnet and Yoke

For 300 Pounds Steam Working Pressure; 750° F. Total Temperature



Regularly furnished with Valve-steel body, yoke and gland; monel metal stem, seat rings, disc faces, disc nut or ring and repacking bushing; Valve-bronze yoke and gland bushings.

The disc is guided by ribs cast in the body which eliminates dragging of the disc upon the seats when the valve is being opened or closed. All parts are renewable, including the seat rings. The stuffing box is repackable under pressure when full open. The stem operates within non-corrosive bearings throughout and at no point does it come in contact with the steel parts, thereby insuring ease of operation. Flanges are faced, drilled and spot faced.

Size Inches	Face to Face Inches	Diam. Flanges Inches	No. 1425 Flanged Price, Ea.	Size Inches	Face to Face Inches	Diam. Flanges Inches	No. 1425 Flanged Price, Ea.
$ \begin{array}{c} 1\frac{1}{2} \\ 2 \\ 2\frac{1}{2} \end{array} $	$ \begin{array}{c} 7\frac{1}{2} \\ 8\frac{1}{2} \\ 9\frac{1}{2} \end{array} $	$\frac{6}{6\frac{1}{2}}$ $\frac{7}{2}$	\$125.00 135.00 145.00	6 7 8	$15\frac{7}{8}$ $16\frac{1}{4}$ $16\frac{1}{2}$	$12\frac{1}{2}$ 14 15	\$360.00 450.00 525.00
3 3½ 4	$11\frac{1}{8}$ $11\frac{7}{8}$ 12	8½ 9 10	160.00 200.00 230.00	10 12 14	18 $19\frac{3}{4}$ $22\frac{1}{2}$	$17\frac{1}{2}$ $20\frac{1}{2}$ 23	725.00 900.00 1200.00
5	15	11	300.00	16	24	251/2	1600.00

No. 1426 Lunkenheimer Steel Monel Mounted Gate Valves with By-pass

Wedge Disc, Rising Stem, Outside Screw Flanged Bonnet and Yoke

For 300 Pounds Steam Working Pressure 750° F. Total Temperature

Regularly furnished with Valve-steel body, yoke and gland; monel metal stem, seat rings, disc faces, disc nut or ring and repacking bushing; Valve-bronze yoke and gland bushings.

The disc is guided by ribs cast in the body which eliminates dragging of the disc upon the seats when the valve is being opened or closed. All parts are renewable, including the seat rings. The stuffing box is repackable under pressure when full open. The stem operates within non-corrosive bearings throughout and at no point does it come in contact with the steel parts, thereby insuring ease of operation. Flanges are faced, drilled and spot faced. The seating surfaces of the by-pass valve are regrindable.

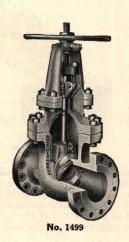


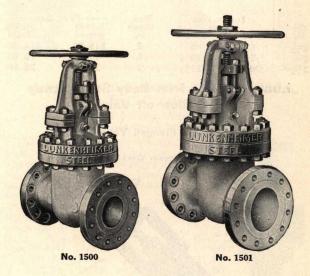
Size Inches	Face to Face Inches	Diam. Flanges Inches	No. 1426 Flanged Price, Ea.	Size In.	Face to Face Inches	Diam. Flanges Inches	No. 1426 Flanged Price, Ea.
6	$15\frac{7}{8}$ $16\frac{1}{4}$	$\frac{12\frac{1}{2}}{14}$	\$500.00 600.00	12 14	$19\frac{3}{4}$ $22\frac{1}{2}$	$\frac{201}{23}$	\$1100.00 1400.00
8 10	$\frac{16\frac{1}{2}}{18}$	$\frac{15}{17\frac{1}{2}}$	700.00 900.00	16 18	24 26	25½ 28	1800.00 2400.00

Lunkenheimer Steel Monel Mounted Wedge Disc Gate Valves

Rising Stem, Outside Screw Flanged Bonnet and Yoke

For Steam Working Pressures: No. 1499, 400 Pounds; No. 1500, 600 Pounds; No. 1501, 900 Pounds 750° F. Total Temperature





No. 1499, furnished in sizes $2\frac{1}{2}$ to 20 inches; No. 1500, furnished in sizes $2\frac{1}{2}$ to 16 inches and No. 1501, furnished in sizes $2\frac{1}{2}$ to 16 inches.

These valves are made in accordance with the American steel flange standards.

Bodies, bonnets, yokes and discs are of cast steel; disc rings and seat rings of forged monel; stems of rolled monel; repacking bushings, stuffing box bushings, cooling chamber plugs, and gland bushings of monel and yoke bushings of manganese bronze.

Valves are regularly furnished with ¼-inch raised face. Valves with male and female, tongue and groove, midwest or surgol flange facings are also procurable.

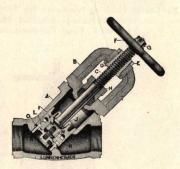
Valves 6 inches and larger may be obtained with motor control.

By-pass valves are furnished in sizes 5 inches and larger. Prices upon application.

Lunkenheimer Iron Body Straightway or Y Blow-off Valves

Outside Screw, Flanged Yoke Bonnet

For 125 Pounds Steam Working Pressure



No. 935, Screwed Sectional View

The disc is reversible and the disc face alloy can be melted out and replaced when worn. The disc locknut is provided with an annular extension which protects the disc face and also provides a self-cleansing flow across the seating surface. The seat, disc and all other parts of the valve are renewable. All stem bearings—stuffing box, gland and yoke—are bronze

Orders should specify number and size.

FACE TO FACE			Diam.	PRICE.	EACH-
Size In.	INCHES		Flanges	No. 935	No. 305
	Screwed	Flanged	In.	Screwed	Flanged
11/2	$6\frac{1}{2}$	9	5	\$13.00	\$14.50
2	75/16	103/8	6	16.50	18.00
21/2	91/8	115/8	7	22.00	25.00

Lunkenheimer Iron Body Straightway or Y Blow-off Valves

Outside Screw, Flanged Yoke Bonnet

For 250 Pounds Steam Working Pressure



No. 1351, Screwed

The disc is reversible and the disc face alloy can be melted out and replaced when worn. The disc locknut is provided with an annular extension which protects the disc face and also provides a self-cleansing flow across the seating surface. The seat, disc, and all other parts of the valve are renewable. All stem bearings—stuffing box, gland and yoke—are bronze

Orders should specify number and size.

Size	FACE TO FACE INCHES		Diam. Flanges	No. 1351	EACH-
In.	Serd.	Flgd.	In.	Serd.	No. 1352 Flgd.
11/2	73/8	111/4	6	\$19.50	\$22.00
2	91/8	127/8	61/2	25.00	28.00
21/2	103/8	143/4	71/2	33.00	38.00

Lunkenheimer Duro Iron Body **Blow-Off Valves**

Outside Screw, Flanged Yoke Bonnet



No. 897, Flanged

For 250 Pounds Steam Working Pressure

The Duro Valve is of the angle type, which not only permits an unobstructed flow opening through the valve greater than the nominal area of the connecting pipe, but also lends itself most readily to a seat and disc construction which affords maximum protection to these parts when blowing down, and causes effective cleansing of the seating surfaces immediately prior to valve closure. All parts are renewable.

Provided with stem of a special bronze composition mounted and guided in bronze bushings-and, unless otherwise ordered, with a double faced, reversible disc having seating faces of Disc-alloy. Seat and seat ring bushing are made of

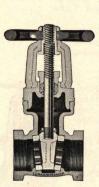
bronze.

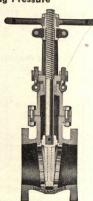
			_	The state of	PRICE,	EACH-	
				WITH AL	LOY DISC		
	CENTER	TO FACE	Diam.	AND SEAT	ONZE SEAT BUSHING	WITH SOLI DISC AN	
Size In.	Serd.	Flgd.	Flanges In.	No. 896 Serd.	No. 897 Flgd.	No. 896 Scrd.	No. 897 Flgd.
11/4	25/8	33/8	5	\$10.70	\$12.00	Prices	Prices
11/2	27/8	4	6	12.50	14.00	upon	upon
2	41/8	45/8	61/2	16.00	18.00	Appli-	Appli-
21/2	43/4	$5\frac{1}{4}$	$7\frac{1}{2}$	21.00	23.00	cation	cation

Lunkenheimer SA Anti-acid Gate Valves

Wedge Disc-Rising Stem-Outside Screw

For 50 Pounds Working Pressure





No. 1406, Flanged

Particularly for use in sludge acid lines. Also adapted for handling slightly acidulous alum solution, fatty acids, salt solutions, and oils bearing corrosive sulphur.

FACE TO FACE		Diam.	PRICE, EACH		
Size		HES	Flanges	No. 1411	No. 1496
In.	Screwed	Flanged	In.	Screwed	Flanged
3/4	23/4			\$50.00	
1	35/16			60.00	
11/4	35/8			70.00	
11/2	315/16			80.00	
2	49/16	43/4	6	100.00	\$160.00
2½ 3		$5\frac{1}{4}$	7	• • • • • •	185.00
3	I	55/8	71/2	• • • • • •	225.00
4		67/8	9		400.00
6		81/4	11	,	600.00
8	• • • •	93/8	131/2		1000.00

No. 629 Lunkenheimer Bronze Pop Safety Valves



Plate W-631

Encased Spring, Angle Outlet
For 250 Pounds Steam Working Pressure

Outlet connection of encased spring valves is one size larger than the inlet. Has male inlet.

When ordering, state size of inlet and pressure at which valves are to relieve.

Size Inlet Inches	No. 629 Price Each	Size Inlet Inches	No. 629 Price Each
3/8 1/2 3/4	\$6.00 6.50	11/2	\$12.40
3/4	7.00	21/2	19.50 30.00
11/4	9.80	3	41.00

No. 433 Lunkenheimer Bronze Pop Safety Valves

Encased Spring, Top Outlet

For 250 Pounds Steam Working Pressure

Outlet connection of encased spring valves is one size larger than the inlet. Has male inlet.

When ordering, state size of inlet and pressure at which valves are to relieve.

Size Inlet Inches	No. 433 Price Each	Size Inlet Inches	No. 433 Price Each
3/8 1/2 3/4	\$5.50 6.00	11/2	\$11.50 18.00
3/4	6.50	21/2	28.00
11/4	7.50 9.00	3	38.00

No. 44 Lunkenheimer Bronze Pop Safety Valves

Outside Spring, Angle Outlet

For 250 Pounds Steam Working Pressure

The outlet and inlet are the same size. Has male inlet.

When ordering, state size of inlet and pressure at which valves are to relieve.

Size Inlet Inches	No. 44 Price Each	Size Inlet Inches	No. 44 Price
			Each
3/4	\$19.00	2	\$38.00
1	21.00	21/2	50.00
11/4	25.00	3	65.00
11/2	30 00		

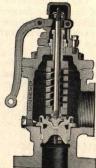
e of inlet and presorelieve. Size No. 44 Inlet Price Each 2 \$38.00 2\frac{1}{2} 50.00 3 65.00

No. 630 Lunkenheimer Iron Body Pop Safety Valves

Bronze Mounted, Encased
Spring, Angle Outlet
For 250 Pounds Steam
Working Pressure

Prices include either straight or side lever. Has flanged inlet and female screwed outlet.

	Center		PRICE, EACH			
Size Inlet In.	to Face of Inlet In.	Diam. Flanges In.	No. 630 Bronze Seat	No. 630 Nickel Seat	No. 36 Testing Clamp	
$\frac{2}{2^{1/2}}$	$\frac{45}{8}$	$\frac{61/2}{71/4}$	\$22.00	\$29.00	\$3.00	
3	511/16	81/4	32.00 40.00	42.00 52.00	3.50 4.00	
31/2	$\frac{63}{8}$	9	56.00 72.00	73.00 94.00	5.00	
41/2	$7\frac{16}{4}$	101/2	84.00	110.00	6.00 7.00	



Lunkenheimer Bronze Pop Safety Valves

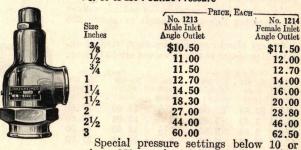
For Air Service With Lever For 10 to 250 Pounds Pressure No. 1226 Nale Inlet Ma No. 1227 Male Inlet Top Outlet Angle Outlet \$10.00 \$12.00 10.50 12.50 11.00 13.00 12.30 14.20 14.50 16.30 18.50 20.30 28.00 29.50 45.00 49.00 60.00 66.00 Special pressure settings, No. 1226 No. 1227

Lunkenheimer Bronze Air-Gas-Pop Relief Valves

prices on request.

With Cap

For 10 to 250 Pounds Pressure



Lunkenheimer Bronze Air-gas Pop Relief Valves

above 250 pounds, prices upon application.

Encased Spring, Angle Outlet For 250 Pounds Steam Working Pressure

The construction of the huddling chamber permits regulation of pressure reduction. The outlet is one pipe size larger than the inlet. No. 1046 has regulating handwheel, nickel seat and male inlet. No. 1045 has cap, nickel seat and male inlet.

Order should specify size of inlet, class of service,—air, gas, etc.,—and pressure at

		are to re		na pros	surc au	
Size, In- let, In.	PRICE, No. 1046	EACH No. 1045	Size, In- let, In.	PRICE No. 1046	, Еасн No. 1045	
	\$11.00			\$31.00		
1	12.50	11.50	21/2	46.00	42.00	
11/4	15.00	13.50	3	62.00	57.00	
11/0	19 00	17 50				



No. 1046

No. 1211 Lunkenheimer Bronze Air-gas Pop Relief Valves

Encased Spring, Top Outlet

For 250 Pounds Steam Working Pressure

The construction of the huddling chamber permits regulation of pressure reduction—difference between pressures at time of opening and closing. Order should specify size of inlet, class of service,—air, gas, etc.,—and pressure at which valve is to relieve. Has cap, integral seat and male inlet.



Size Inlet	No. 1211 Price	Size Inlet	No. 1211 Price
In. 3/2	Each \$8.50	In. 1½	Each \$16.50
3/8 1/2 3/4	9.00	2 2	25.50
13/4	9.50 10.80	21/2	40.00
11/4	12.70	3	54.00

Lunkenheimer Bronze Relief Valves

For Steam Cylinder Service



These valves have top outlet. No. 656 has male inlet; No. 287, female inlet.

An extra charge is made for setting valves at pressures below 10 pounds or above 250 pounds.

Orders should specify number, size of inlet and pressure at which valves are to relieve.

		PRICE,			PRICE	Елсн
	Size Inlet Inches	No. 656 Male Inlet	No. 287 Female Inlet	Size Inlet Inches	No. 656 Male Inlet	No. 287 Female Inlet
. 656, Mal Inlet	3/8 e 1/2 3/4	\$2.30 2.90 3.60	\$2.30 2.90 3.60	1½ 2 2½	\$7.00 11.00 17.00	\$7.00 11.00 17.00
	1 11/4	4.70 5.50	4.70 5.50	3	26.00	26.00

Lunkenheimer Bronze Relief Valves

For Steam Cylinder Service

These valves have angle outlet. No. 286 has female inlet; No. 658, male inlet.

An extra charge is made for setting valves at pressures below 10 pounds or above 250 pounds.

Orders should specify number, size of inlet and pressure at which valves are to relieve.

107,333	PRICE,			PRICE,	Елен
Size	No. 658	No. 286	Size	No. 658	No. 286
Inlet	Male	Female	Inlet	Male	Female
Inches	Inlet	Inlet	Inches	Inlet	Inlet
3/8 1/2 3/4	\$2.80	\$2.80	11/2	\$7.60	\$7.60
1/2	3.40	3.40	2	12.00	12.00
3/4	3.80	3.80	21/2	18.50	18.50
1	5.00	5.00	. 3	27.50	27.50
11/4	6.00	6.00			

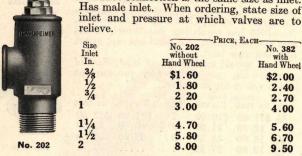


No. 658, Male Inlet

Lunkenheimer Bronze Cylinder Relief Valves Inside Spring, Angle Outlet

For 175 Pounds Steam Working Pressure

Outlet connection is the same size as inlet.



Red Top Relief Valves

No. 1 relieves pressure in domestic hot water supply before the danger point is reached; prevents explosion in range boilers, gas or tank heaters. No. 2 is the basis of an efficient tank-in-basement hot water heating system. Boiler valves are made of bronze with special nickel piston held to seat by lead ball. They operate on the gravity principle, and have no spring, levers or diaphragm to get out of order.

No. 1 can be set to relieve at 50, 75, 100 and 130 pounds, No. 2 at 30 pounds.

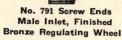
Price, No. 1	Size 1/2	Inch		.each \$6.00
Dring No 2	Ci- 1	T	45.14	 .cach \$0.00
Price, No. 2	pize 1	Inch		 .each 18.00

Lunkenheimer Bronze Relief Valves

For Water or Liquid Service

For 15 to 250 Pounds Pressure







No. 996 Screw Ends Male Inlet, Rough Iron Regulating Wheel

Outlet connection on angle outlet valves is the same size as inlet.

Order should specify number, size of inlet and pressure at which valve is to relieve.

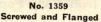
Size Inlet and Outlet Inches	No. 791 Male No. 288 Female Finished with Bronze Wheel	EACH No. 996 Male No. 997 Female Rough with Iron Wheel	Size Inlet and Outlet Inches	PRICE, No. 791 Male No. 288 Female Finished with Bronze Wheel	No. 996 Male No. 997 Female Rough with Iron Wheel
3/8 1/2 3/4	\$4.40	\$4.20	11/2	\$8.40	\$7.70
1/2	4.60	4.30	2	13.50	12.50
3/4	4.90	4.50	21/2	20.50	19.00
1	5.50	5.00	3	33.00	31.00
11/4	6.60	6.00	3045	00.00	31.00

Lunkenheimer Iron Body Relief Valves

For Liquids

Bronze Mounted, Inside Spring, Angle Outlet For 250 Pounds Steam Working Pressure







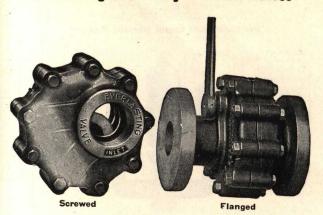
No. 1144 Flanged

Outlet connection is the same size as inlet. Inlet flanges of flanged or flanged and screwed valves have ½-inch raised face. Outlet flanges have plain faces.

Orders should state size of inlet and pressure at which valves are to relieve.

a.	Center	Diam.	PRICE, EACH	
Size Inlet Inches	to Face Inlet Flange Inches	Inlet Flanges Inches	No. 1144 Flanged	No. 1359 Screwed and Flanged
2 21/2	37/8 41/4	6½ 7½	\$25.00 35.00	\$25.00 35.00
3 1/2	47/8 57/6	814	45.00 60.00	45.00 60.00
4 4 1/2	6 65/8	$\frac{10}{10\frac{1}{2}}$	75.00 90.00	75.00 90.00
6	71/4 83/8	$\frac{11}{12\frac{1}{2}}$	145.00 180.00	145.00 180.00

Everlasting Iron Body Blow-off Valves



Designed to give continual, uninterrupted service, being self-grinding and self-compensating at all points. Every valve is carefully inspected and tested; all valves for boiler and other high pressure service are worked under 250 pounds steam pressure before leaving the factory.

ION
Flanged
• • • • •
39.00
48.00
60.00 81.00

Iron Blow Off Cocks

Asbestos U Packed

For Working Pressure: Standard, 150 Pounds Extra Heavy, 250 Pounds

Prices given below apply to screwed and flanged.

Regular cocks, ½ to ¾ inches and extra heavy ½ to 1½ inches made screwed only.



No. 1571 Lunkenheimer Bronze Air Liquid Cocks Female Ends Only



Screwed

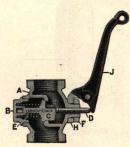
This design, which is especially recommended for air, is used with equal success on oil and cold and hot water. It is a packless control device, easily operated, does not require attention, and stays tight.

Proper seating is maintained by self-adjusting spring

mechanism located at bottom of plug which automatically takes up wear, insuring a tight cock at all times.

No. 444 Lunkenheimer Bronze Plain Whistle Valves

Without Stuffing Box
For 200 Pounds Steam Working Pressure



This valve is provided with lever which may be set in line with or at right angles to the valve stem. This advantageous feature in combination with the adjustable fulcrum allows installation of regular valves for vertical, horizontal, and oblique pull operation.

Size	Price	Size	Price
Inches	Each	Inches	Each
1/4	\$2.00	1	\$4.40
3/8	2.00	11/4	5.60
1/2	2.50	11/2	7.40
3/4	3.00	2	14.00

Lunkenheimer Bronze Balanced Whistle Valves

For 200 Pounds Steam Working Pressure

These valves are equipped with combination adjustable lever and fulcrum allowing for vertical, horizontal or oblique pull operation.



No. 691. Screwed

Extra charge for grinding seating surfaces of valves ordered for air service.

	PRICE.	EACH
Size Inches	No. 691 Screwed	No. 692 Flanged
1	\$18.00	\$22.20
11/4	22 .20	27.50
11/2	26.60	33.60
2	35.50	43.80
21/2	44 .40	53.20
3	62.20	77.00

Lunkenheimer Bronze Balanced Whistle Valves

For 300 Pounds Steam Working Pressure

These valves are equipped with combination adjustable lever and fulcrum allowing for vertical, horizontal or oblique pull operation.

An extra charge will be made for specially grinding the seating surfaces of valves ordered for air service.

No. 234 Size No. 236 Inches Flanged \$21.50 1 \$36.00 11/4 11/2 26.00 44.00 31.00 60.00 49.00 80.00 110.00 21/2 72.00 140.00 92.00



No. 236, Flanged

No. 635 Lunkenheimer Bronze Regrinding Lever Operated Valves

With Stuffing Box
For 200 Pounds Steam Working Pressure

Being provided with stuffing box, is safe for hand operation, which, coupled with quick opening and closing feature, adapts this pattern to a wide field of service other than whistle control.

Provided with lever which may be set in line with or at right angles to valve stem. This feature in combination with adjustable fulcrum allows installation of regular valves for vertical, horizontal and oblique pull.

horizontal and oblique pull. Size inches $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{3}{4}$ 1 $\frac{11}{4}$ $\frac{11}{2}$ 2 Price each \$2.30 2.50 3.20 4.30 8.50 10.00 14.00 20.00



Lunkenheimer Bronze Plain Whistles







Without Valve

			Min	PRICE	, EACH -
Diam.	Pipe	Min.	Steam	No. 441	No. 442
Bell	Thread	Boiler	Working	With	Without
Inches	Inches	H.P.	Pres., Lbs.	Valve	Valve
1	1/4	10	10	\$3.10	\$2.20
11/4	1/4 3/2	15	10	3.75	2.75
11/2	3/8	20	10	4.00	3.00
2	1/2	30	12	5.50	4.35
21/2	3/4	45	15	7.40	5.25
3	3/4	60	15	8.50	7.25
31/2	1	75	20	13.00	9.50
4	11/4	100	35	16.50	12.00
5	1½	175	50	27.50	21.00
6 8	11/2	250	70	37.50	31.00
8	2	350	90	37.30	
10					70.00
	21/2	450	120		150.00
12	3	600	130		290.00

Extra charge will be made for grinding valves for air service.

Lunkenheimer Bronze Single Bell Chime Whistles

For 200 Pounds Steam Working Pressure







These single bell chime whistles are provided with bells especially designed to eliminate the destructive effect of the heavy vibratory strains incident to operation. Their sections are extremely heavy and the division walls of the tone compartments are cast integral with the outer shell.

An extra charge will be made for grinding the valves for air

Diam	Pipe	Minimum	Minimum	PRICE,	EACH
Bell	Thread	Boiler	Steam Working	No. 447 with	No. 448
Inches	Inches	H. P.	Pres., Lbs.	Valve	without Valve
11/2	3/8	20	12	\$7.00	\$5.50
2	1/2	30	15	10.00	8.50
21/2	3/4	45	20	13.00	10.50
	3/4	60	40	16.00	
31/2	1	75	50	22.00	13.50
4	11/4	100	60		18.50
5	11/2	175	75	28.00	24.00
6	11/2			44.00	37.00
8		250	90	60.00	49.00
	2	350	115		120.00
10	21/2	450	130		188.00
12	3	600	140	Francisco (m. 1977)	
		A THE RESERVE TO SERVE THE PARTY OF THE PART		*****	370.00

No. 450 Lunkenheimer Three Whistle Chimes

For 150 Pounds Steam Working Pressure



The three-bell type of chime whistle necessarily provides greater sound-carrying power than whistles of the plain bell or single bell chime designs for the same nominal pipe size connection, and the dimensions of each of the three bells are proportioned to produce harmonious tone blends.

Size No.	Pipe Thread Inches	Diam. and Length Bell, In.	Min. Boiler H.P.	Min. Steam Working Pres., Lbs.	Price Each
2	2	$ \begin{cases} 3\frac{1}{2} \times 8 \\ 4 \times 9\frac{1}{2} \\ 5 \times 11\frac{3}{8} \end{cases} $	350	75	\$40.00
3	3	$\begin{cases} 5 & x10 \\ 6 & x12 \\ 8 & x24 \end{cases}$	500	125	109.00
31/2	3	5 x15 6 x18 8 x24	500	140	130.00

No. 446 Lunkenheimer Iron Base Fire Alarm Whistles

Bronze Mounted For 150 Pounds Steam Working Pressure Provided with bell of special length to permit of the greatest tone range practicable with the pressure for which each size is designed. The piston provides a means of tone control. Specify whether to be operated by steam or air.

An extra charge for grinding valves for air service.

Diam. Bell Inches	Pipe Thrd. Inches	Minimum Boiler H.P.	Working Pres., Lbs	No. 446 Price Each
31/2	1	75	20	\$31.00
5	11/2	175	50	40.00
8	2	350	90	100.00



Minimum

No. 445 Lunkenheimer Mocking **Bird Whistles**

For 200 Pounds Steam Working Pressure

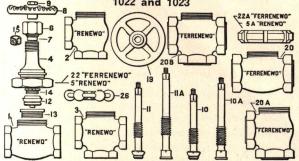


Orders should indicate whether whistles are to be operated by steam or air. An extra charge will be made for grinding valves for air service.

Diam.	Pipe	Min.	Steam	No. 445
Bell	Thrd.	Boiler	Working	Price
Inches	In.	H. P.	Pres., Lbs.	Each
2½	1 $\frac{3/4}{3/4}$	45	15	\$10.50
3		60	15	14.00
3½		75	20	20.00
4	$1\frac{1}{4}$ $1\frac{1}{2}$ $1\frac{1}{2}$	100	35	28.00
5		175	50	40.00
6		250	70	56.00

Parts for Lunkenheimer Renewo and Ferrenewo Valves

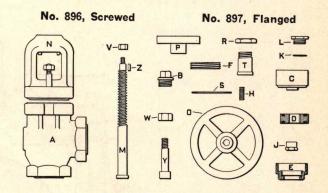
Globe, Angle and Cross Nos. 68, 69, 70, 71, 72, 73, 1021, 1022 and 1023



Orders should specify symbol of the part required and size and figure number of the valve for which part is intended. Renewo and Ferrenewo bodies furnished with renewable nickel seats. Prices of stem packing, upon application.

	seats.	Prices o	f stem	D	orbone co	pplicati	on.
				PRICE, EAC	H	No. 5A	
					No. 5	Renew	
					Renewo	Bronze	
O:		SCREWED E	ND-		Bronze	Round	
Size	R	No. 2	DIES	No. 4	Hexagona	I Slotted	Bronze
Valve In.	No. 1	No. 2	No. 3	Bronze	Bonnet	Bonnet	Stuffing
	Globe	Angle	Cross	Bonnet	Rings	Rings	Box
1/4 3/8 1/2 3/4	\$.55	\$.55	\$.85		\$.30		\$.20
3/8	.65	. 65	1.00	.25	.30		.20
1/2	.80	.80	1.10	.40	.30		.25
3/4	1.10	1.10	1.25		.35		.30
1	1.40	1.40	1.60			• • • •	
11/4					.60		.35
- / - 2	2.00	2.00	2.40	.90	.85		.35
11/2	2.75	2.75	3.10	1.20	1.20		.40
2	4.50	4.50	4.75	2.30		\$1.75	.50
21/2	8.00	8.00	10.00	3.70		3.10	.90
3	11.00	11.00	13.75	5.00			
•	11.00	No. 8	13.73	5.00		4.20	1.30
	No. 7	Renewo	No. 9		-1		W. 10
	Bronze	Self-cool-	Brass	STEMS FOR	LABOR	No. 14	No. 19 Plain
	Glands	ing Mall.	Hand	SIZE BE	PONZE	Bronze	Rim
Size	for	Iron	Wheel	Dian Di	No. 11A	Disc	Hand
Valve	Stuffing	Hand	Lock-	No. 10A	Angle	Lock-	Wheels
In.	Box	Wheels	nuts	Globe	and Cross	nuts	Renewo
1/4 3/8 1/2 3/4		\$.18	\$.07				
3/8		.18	.07				1000
1/2		.20	.08				
3/	\$.15	.20		¢ =0			
1			.09	\$.50	\$.60	\$.09	
1	.15	.20	.09	.65	.75	.09	
11/4	.20	.25	.09	.85	.95	.13	
11/2	.25	.30	.12	1.20	1.30	.15	
2	.30	.45	.15	1.70	1.80	.20	
21/2	.45	. 10	.20				i :
2/2				2.40	2.60	.25	\$.70
3	.60		.35	3.00	3.40	.45	1.00
					No. 22A -	No. :	
				No. 22 F	Ferrenewo F		Trimmings
	Scr	REWED END		Ferrenewo Bronze	Bronze	Iron	Complete
Size	FERR	ENEWO BOI		Hexagonal	Round Slotted	Ball Pattern	for Renewo
Valve	No. 20	No. 20A	No. 20B	Bonnet	Bonnet		Hobe, Angle
In.	Globe	Angle	Cross	Rings	Rings	Wheels	and Cross
1/4	\$.35	\$.35					
3/0			\$.50			\$ 18	
1/2	.40	.40	\$.50	\$.30	• • • • •	\$.18	\$.80
	.40	.40	.60	\$.30 .30	::::	.18	\$.80 .80
3/	.50	.40	.60	\$.30 .30 .30		.18	\$.80 .80 1.05
1/4 3/8 1/2 3/4	.50 .70	.40 .50 .70	.60 .70 .80	\$.30 .30 .30 .35	::::	.18 .20 .20	\$.80 .80
1	.50 .70 .90	.40 .50 .70	.60	\$.30 .30 .30		.18 .20 .20	\$.80 .80 1.05 1.45
1	.50 .70	.40 .50 .70	.60 .70 .80 1.05	\$.30 .30 .30 .35 .60		.18 .20 .20 .20	\$.80 .80 1.05 1.45 1.85
1 11/4	.50 .70 .90 1.25	.40 .50 .70 .90 1.25	.60 .70 .80 1.05 1.50	\$.30 .30 .35 .60 .85		.18 .20 .20 .20 .25	\$.80 1.05 1.45 1.85 2.65
$\frac{1}{1^{1}/4}$ $\frac{1^{1}/4}{1^{1}/2}$.50 .70 .90 1.25 1.75	.40 .50 .70 .90 1.25 1.75	.60 .70 .80 1.05 1.50 2.00	\$.30 .30 .30 .35 .60		.18 .20 .20 .20 .25 .30	\$.80 1.05 1.45 1.85 2.65 3.65
$ \begin{array}{c} 1 \\ 1 \frac{1}{4} \\ 1 \frac{1}{2} \\ 2 \end{array} $.50 .70 .90 1.25	.40 .50 .70 .90 1.25	.60 .70 .80 1.05 1.50	\$.30 .30 .35 .60 .85	\$1.75	.18 .20 .20 .20 .25	\$.80 1.05 1.45 1.85 2.65 3.65 5.80
$\frac{1}{1^{1}/4}$ $\frac{1^{1}/4}{1^{1}/2}$.50 .70 .90 1.25 1.75	.40 .50 .70 .90 1.25 1.75	.60 .70 .80 1.05 1.50 2.00	\$.30 .30 .35 .60 .85	\$1.75	.18 .20 .20 .20 .25 .30	\$.80 1.05 1.45 1.85 2.65 3.65 5.80
$ \begin{array}{c} 1 \\ 1 \frac{1}{4} \\ 1 \frac{1}{2} \\ 2 \end{array} $.50 .70 .90 1.25 1.75	.40 .50 .70 .90 1.25 1.75	.60 .70 .80 1.05 1.50 2.00	\$.30 .30 .35 .60 .85	\$1.75	.18 .20 .20 .20 .25 .30	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50
$ \begin{array}{c} 1 \\ 1 \frac{1}{4} \\ 1 \frac{1}{2} \\ 2 \end{array} $.50 .70 .90 1.25 1.75 2.80	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00	\$.30 .30 .35 .60 .85 1.20	\$1.75	.18 .20 .20 .20 .25 .30	\$.80 1.05 1.45 1.85 2.65 3.65 5.80
$ \begin{array}{c} 1 \\ 1 \frac{1}{4} \\ 1 \frac{1}{2} \\ 2 \end{array} $.50 .70 .90 1.25 1.75 2.80	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00	\$.30 .30 .35 .60 .85 1.20	\$1.75	.18 .20 .20 .20 .25 .30	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50
1 1 ¹ / ₄ 1 ¹ / ₂ 2 2 ¹ / ₂ 3	.50 .70 .90 1.25 1.75 2.80	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00	\$.30 .30 .35 .60 .85 1.20		.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 1 ¹ / ₄ 1 ¹ / ₂ 2 2 ¹ / ₂ 3	.50 .70 .90 1.25 1.75 2.80 No. 20 Wrench	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA BRONZE	\$.30 .30 .35 .60 .85 1.20 ith Inte- kel Disc	No	.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 11/4 11/2 2 21/2 3 Size Valve	.50 .70 .90 1.25 1.75 2.80 No. 20 Wrenet for Irc Seat Rir	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA BRONZE NO. 10	\$.30 .30 .35 .60 .85 1.20 ITH INTE- KEL DISC LLL SIZE VALVES NO. 11 Angle	No.	.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 11/4 11/2 2 21/2 3 Size Valve In.	.50 .70 .90 1.25 1.75 2.80 No. 20 Wrench for Irr Seat Rir Size, N	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMM BRONZE No. 10 N	\$.30 .30 .35 .60 .85 1.20 ITH INTE- KEL DISC VALVES VALVES VO. 11 Angle and Cross	No	.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 11/4 11/2 2 21/2 3 Size Valve In.	.50 .70 .90 1.25 1.75 2.80 No. 20 Wrenet for Irc Seat Rin Size, N	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMM. BRONZE NO. 10 N Globe \$.40	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE- KEL DISC VALVES To 11 Angland Cross \$.65	No.	.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30
1 11/4 11/2 2 21/2 3 Size Valve In.	.50 .70 .90 1.25 1.75 2.80 No. 20 Wrened for Irc Seat Rin Size, N	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No.	.18 .20 .20 .20 .25 .30 .45	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30
1 11/4 11/2 2 21/2 3 Size Valve In.	.50 .70 .90 1.25 1.75 2.80 No. 22 Wrench for Irc Seat Rin Size, N	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMM. BRONZE NO. 10 N Globe \$.40	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE- KEL DISC VALVES To 11 Angland Cross \$.65	No. Pie Nie Di	.18 .20 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30 .30
1 11/4 11/2 2 2 21/2 3 Size Valve In. 1/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3	.50 .70 .70 .90 1.25 1.75 2.80 No. 22 Wrendd for Irt Saex Rir Size, No. 10 10 11 11	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. No. Nie Di	.18 .20 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30 .40
1 11/4 11/2 2 2 21/2 3 Size Valve In. 1/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3	.50 .70 .70 .90 1.25 1.75 2.80 No. 22 Wrendd for Irt Saex Rir Size, No. 10 10 11 11	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. Po Nice Di	.18 .20 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 11/4 11/2 2 2 11/2 3 Size Valve In. 11/4 11/4 11/4 11/4 11/4 11/4 11/4 11/	.50 .70 .70 .90 1.25 1.75 2.80 No. 22 Wrend for Irc Seat Rin Size, N	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. Pe Nie Di	.18 .20 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65
1 11/4 11/2 2 2 11/2 3 Size Valve In. 11/4 11/4 11/4 11/4 11/4 11/4 11/4 11/	.50 .70 .90 .1.25 1.75 2.80 No. 22 Wrend for Irr Seat Rin Size, N. 10 10 11 11 11 12 12 13	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. No. Nie Nie Nie Sie Nie Nie Sie Nie Sie Nie Nie Nie Sie Nie Sie Nie Sie Nie Sie Nie Sie Nie Nie Nie Nie Nie Nie Nie Nie Ni	.18 .20 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30 .40 .50 .65 .90
1 11/4 11/2 2 2 21/2 3 Size Valve In. 1/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3	.50 .70 .90 1.25 1.75 2.80 No. 2: Wrend for Irc Seat Rii. Size, N 10 10 10 11 11 11 12 12 13	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. Pe Nice Di	.18 .20 .20 .22 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30 .40 .65 .65 .65 .30 .65
1 11/4 11/2 2 2 11/2 3 Size Valve In. 11/4 11/4 11/4 11/4 11/4 11/4 11/4 11/	.50 .70 .90 .1.25 1.75 2.80 No. 22 Wrend for Irr Seat Rin Size, N. 10 10 11 11 11 12 12 13	.40 .50 .70 .90 1.25 1.75 2.80	.60 .70 .80 1.05 1.50 2.00 3.00 STEMS W GRAL NIC FOR SMA FOR SMA	\$.30 .30 .30 .35 .60 .85 1.20 ITH INTE-SEEL DISC MLL SIZE VALVES (b. 11 Angle) and Cross \$.65 .65	No. Pe Nice Di	.18 .20 .20 .25 .30 .45 	\$.80 .80 1.05 1.45 1.85 2.65 3.65 5.80 10.50 14.65 No. 13 Nickel Seat \$.30 .40 .50 .65 .90

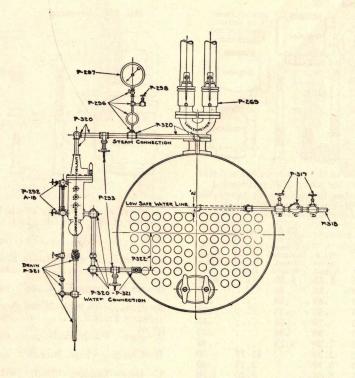
Parts for Lunkenheimer Iron Body **Duro Blow-Off Valves**

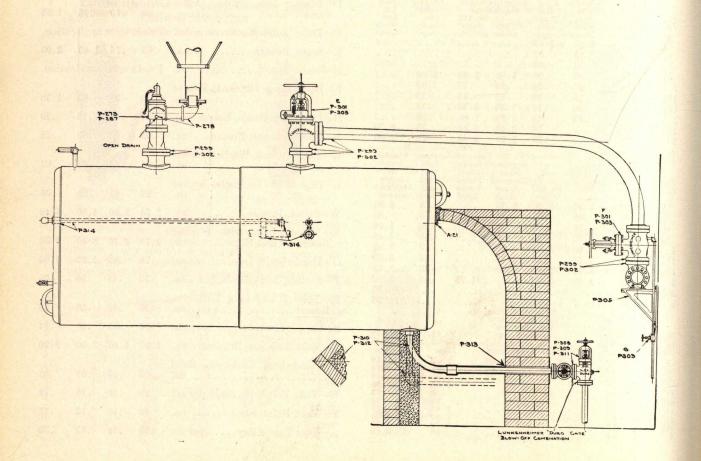


Orders should specify symbol of the part required and number of the valve for which the part is intended.

Sizein.	11/4	11/2	2	21/2
A—Iron Body with Bronze Seat Screw Endsea.	\$5.35	\$6.25	\$8.00	\$10.50
A—Same, Flange Endsea.	6.00			11.50
A—Iron Body with Monel Seat, Screw Endsea.		es upor	appli	cation.
A—Same, Flange Endsea.	Price	es upor	appli	cation.
B—Cleaning Plugs, Bronzeea.	.45	.50	.70	1.30
C—Disc Guides, Iron, with Bronze Stud H	.85	.90	1.00	1.50
D—Discs, Iron, with Alloy Facesea.	.60	.70	.95	1.30
D—Discs, Solid Monelea.	Price	es upon	appli	cation.
E—Seats, Bronzeea.	.65	.75	1.40	2.00
E—Seats, Monelea.	Price	es upon	appli	cation.
F-Body Rings for Seat, Bronze				
H. Digo Cuido Studa Bassas	.30	.35	.80	1.30
H—Disc Guide Studs, Bronzeea.	.07	.10	.15	.20
J—Disc Locknuts, Bronzeea.	.45	.50	.60	.75
K—Disc Locknut Washers, Brass	.04	.04	.05	.07
L—Disc Guide Locknuts, Bronze				
ea.	.35	.45	.50	.60
M—Stems, Bronzeea.	2.50	3.00	4.50	5.40
N—Yokes, Iron, with Stuffing Box Studs and Nutsea.	2.10	2.70	3.40	4.60
O—Handwheels, Ironea.	.75	.85	1.30	1.50
P-Stuffing Box Glands, Ironea.	.35	.45	.50	.75
R-Yoke Bushing Locknuts,				
Bronzeea.	.35	.45	.50	.60
S—Copper Gasketsea.	.07	.09	.10	.14
T—Yoke Bushings, Bronzeea.	1.80	1.80	2.00	2.20
V—Handwheel Locknuts, Steel	.05	.05	.07	.07
W—Yoke Bolt Nuts, Steel per set	.10	.10	.10	.12
Y—Yoke Bolts, Steelea.	.10	.10	.10	.12
—Disc Face Alloyper lb.	.70		.10	.12

Application of Lunkenheimer Boiler Mountings Conforming to A. S. M. E. Boiler Code Specifications





Application of Lunkenheimer Boiler Mountings Conforming to A. S. M. E. Boiler Code Specifications

Continued

P-269 P-273 P-277 P-278 P-278 P-292 A-18 P-269 Wa Boiler Her pac Only Escap Opc in t Autor Drain	Rule le Plug Shall be Located at Lowest Permissible ter Level	Description Regular Standard Fusible Plug Twin Pop Safety Valve Flanged Inlet, Angle Screw Outlet Pop Safety Valve	FIGURE 1 Up to 200 Lbs. W.S.P. { 1326 1327	NUMBER 200 to 250 Lbs. W.S.P
P-292 A-18 Pusib	le Plug Shall be Located at Lowest Permissible ter Level	Regular Standard Fusible Plug Twin Pop Safety Valve Flanged Inlet, Angle Screw Out-	200 Lbs. W.S.P. { 1326 1327	250 Lbs. W.S.P.
A-21 Fusib Wa P-269 Boiler Her pac P-273 P-287 Color P-278 Escap Ope in t P-292 A-18 Color Drain	le Plug Shall be Located at Lowest Permissible ter Level	Regular Standard Fusible Plug Twin Pop Safety Valve Flanged Inlet, Angle Screw Out-	$ \begin{cases} 1326 \\ 1327 \end{cases} $ 752	
P-269 Boiler Her pac P-273 P-287 P-278 Conly Escap Ope in t P-292 A-18 Drain	s Having More than Either 500 Sq. Ft. of Water ating Surface or 2000 Lbs. per Hour Generating Caity Shall Have Two or More Safety Valves A. S. M. E. Standard Safety Valves are Permissible e Pipe Must be at Least Full Size of Discharge ening, and Must be Supported. A Drain is Required	Twin Pop Safety Valve Flanged Inlet, Angle Screw Out-	752	
P-273 P-287 Only P-278 Escap Ope in t P-292 A-18 Drain	A. S. M. E. Standard Safety Valves are Permissible e Pipe Must be at Least Full Size of Discharge ming, and Must be Supported. A Drain in Required	Flanged Inlet, Angle Screw Out-		752
P-287 Escap Ope in t P-292 A-18 Colored Autor Drain	e Pipe Must be at Least Full Size of Discharge ming, and Must be Supported. A Drain i3 Required			The state of
P-292 A-18 Auton Drain	ening, and Must be Supported. A Drain is Required		630	630
A-18 Autor Drain				
Drain	natic Water Gauges Specified	Bronze Water Gauge	1335	1335
	Valve for Water Gauge	Bronze Renewo Globe Valve	73	16
	varve for water dauge	Vigilant Water Column	919	919
D.000 TC V	TT 1.00	Gauge Cocks	1264	1264
P-296 Tee o	lves are Used They Must be Outside Screw and the Gate Valves and Must be Locked or Sealed Open or Lever Handle Cock is the Only Stop Permitted ween Gauge and Boiler. Siphon and Fittings of	Bronze Wedge Disc Gate Valves	831	834
P-297 Steam	ss, Copper or Bronze	Bronze Steam Gauge Cock	979	472
P-298 of t	he Boilerh Globe Valve for Attaching Test Gaugessure Exceeds 125 Lbs. or if the Fittings are Below	Bronze Regrinding Globe Valve	407	409
P-302 \ the	Water Line, All Fittings Must be Extra Heavy			
	p Valve E is Required on Each Steam Line as Near ler as is Practicable. Valve Over 2-inch Pipe Size	Volum E Angle Walne Ser. Ends	882	882
Mu	st be of Outside Screw-and-voke Type	Valve E Angle Valve Scr. Ends Flg. "	885	885
P-303 If Two	o or More Boilers are Connected to a Common Pipe,	Valve E Angle Safety Scr. ".	1442	1442
	ves E and F are Both Required, E Should be Non- irn, and Drain G is Required Between the Two	Non-return Valve Flg. " Valve F-O. S. & Y. Scr. "	$\frac{1408}{1435}$	1408 1435
Val	ves. The Open End of Drain Must be Visible While	Gate Valve Flg. "	1436	1436
P-305 Ope	erating Valve	Valve G Bronze Renewo Globe Valve	73	16
P-308 Globe	Valves Must Not be Used	Duro Blow-off Valve $\left\{ egin{array}{ll} \operatorname{Scr. Ends} \\ \operatorname{Flg.} \end{array} ight.$	896 897	896 897
	Exceeds 125 Lbs., Except Traction and Portable	OS & V. Cata Valera (Scr. Ends	1435	1435
P-311 Boi Gla	lers. Plug Must be Held in Place by Guard or nd	O.S.& Y. Gate Valve Ser. Ends Flg. "	1436	1436
P-310) $2\frac{1}{2}$	Inches, and Fully Protected from Direct Exposure		god Anton	
} to]	Flame. Pipe Must be of One Size from Boiler to			
a S	nt of Discharge. A Bent Pipe is Preferred, Though teel Elbow is Permissible			
P-313 Clears P-314 Feed Nea the	Pipe Must be Provided All Around Pipe Pipe Must be Carried Through the Head or Shell at the Front End and be Securely Fastened Inside Shell Above the Tubes. Feed Water Must Disgreg at About 3/5 the Length from the Front Head			
Abo	ove Central Row of Tubes		1041-01-0	5 (6.956)
DOIN W.I	D IOD : I AND I D: D : I			
Onl	s B and C Required on All Boilers. D is Required y When Two or More Boilers Are Fed from One	Valves B and D Bronze Renewo Globe Valve	73	16
Sou	rce. Boiler Pressure Must be on Top of Valve Discs	Valve C Bronze Regrinding Swing Check Valve	554	624
Sur Sha	s Having More Than 500 Sq. Ft. of Water-heating face Require Two Means of Feeding, One of Which Ill be a Pump, Inspirator or Injector. On Boilers	CHECK VALVE.	001	a best of
	ving More Than 100 Sq. Ft. of Heating Surface, the d Pipe Shall be not Less Than ¾-inch Pipe Size			
P-320 320-S	team Connection, 1-inch (Min.) Iron Pipe and Fit-		9 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
tins	Water Connections, 1-inch (Min.) Bronze Pipe	24 0444		
P-321 P-321 P-321		Bronze Ground Joint Union	458	302
	Iron Pipe Fittings for Higher Pressures	a a a a a a a a a a a a a a a a a a a	458	302
	Orain to Ash Pit, ¾-inch (Min.), Iron Pipe and Fit-	" Renewo Globe Valves	73	16
	(Min.)	Tienewo Globe Varves		

Lunkenheimer Iron Body Safety Non-return Valves

Bronze Mounted, Outside Screw, Flanged Yoke Bonnet For 250 Pounds Steam Working Pressure



No. 1407, Globe

These valves automatically close and instantly cut out a boiler connected in battery when the pressure within the boiler suddenly drops below that of the header; they facilitate the continued service of the other boilers in battery; they enable the plant operatives to safely pursue their duties and safe-guard the life of a human being who may have occasion to enter a dead boiler should the regular stop valve fail or be opened through carelessness.

The valves may be installed with the valve stem in either a vertical or horizontal plane.

The tension of the outside spring can be adjusted to over-

come the chattering of the disc

upon the seat. The seating surfaces are regrindable and all parts, including the seat and disc, are renewable.

	4 7 7 8 7				No.	1441 Globe No	. 1407 Globe
7.27	FACE T	o FACE	CENTER	TO FACE	Diam.	No. 1442.	No. 1408.
Size	INC	HES	INC	CHES	Flanges	Angle	Angle
In.	Serd.	Flgd.	Serd	Flgd.	In.	Screwed	Flanged
3	113/4	$12\frac{1}{2}$	57/8	61/4	81/4	\$65.00	\$68.00
31/2	$12\frac{3}{4}$	$13\frac{1}{2}$	63/8	63/4	9	78.00	81.00
4	13	14	$6\frac{1}{2}$	7	10	86.00	90.00
41/2		15		$7\frac{1}{2}$	$10\frac{1}{2}$		100.00
5		153/4		77/8	11		115.00
6		$17\frac{1}{2}$		83/4	$12\frac{1}{2}$		135.00
7		$19\frac{1}{4}$		95/8	14		180.00
8		$21\frac{3}{4}$		$10\frac{1}{2}$	15		230.00
10		253/8		$12\frac{1}{4}$	171/2		400.00

Lunkenheimer Cast Steel Safety Non-return Valves

Outside Screw, Flanged Yoke Bonnet For 300 Pounds Steam Working Pressure; 750° F. Total Temperature

These valves automatically close and instantly cut out a boiler connected in battery when the pressure within the boiler suddenly drops below that of the header; they facilitate the continued service of the other boilers in battery.

The valves may be installed with the valve stem in either a vertical or horizontal plane. The tension of the outside spring can be adjusted to overcome chattering of the disc upon the seat. The seating surfaces are regrindable and all parts, including the seat and disc, are renewable.

Steel valves are regularly furnished with flanges faced, drilled and spot faced.

Size Inches	Face to Face Inches	Center to Face Inches	Diam. Flanges Inches	FLANGED, P No. 1409 Globe	No. 1410 Angle
3 1/2	$12\frac{1}{2}$ $13\frac{1}{2}$	$\frac{6\frac{1}{4}}{6\frac{3}{4}}$	81/4	\$240.00 300.00	\$240.00 300.00
4 41/2	14 15	7 71/2	10 10½	330.00 390.00	330.00 390.00
4½ 5	$15\frac{3}{4}$ $17\frac{1}{2}$	77/8 83/4	11 12½	420.00 540.00	420.00 540.00
7 8	$19\frac{1}{4}$	95/8	14	630.00	630.00
10	$21\frac{3}{4}$ $25\frac{3}{8}$	$10\frac{1}{2}$ $12\frac{1}{4}$	$\frac{15}{17\frac{1}{2}}$	840.00 1200.00	840.00 1200.00



No. 1410, Angle

FLANGED.	PRICE, EACH
No. 1409	No. 1410
Globe	Angle
\$240.00	\$240.00
300.00	300.00
330.00	330.00
390.00	390.00
420.00	420.00
540.00	540.00
630.00	630.00
840.00	840.00
1200.00	1200.00

No. 1 Fisher Constant Pressure Pump Governors



Recommended for the automatic control of pumps working under pressure. They maintain uniform discharge pressure, regardless of any variation in the initial pressure.

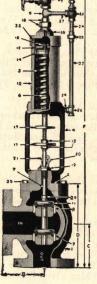
Adjustment on this governor is made by two small wheels, one acting as a lock nut, the other being the adjusting wheel. It is as easy to adjust when set at 400 or 500 pounds as at 10 or 15 pounds, for one does not have to overcome the tension of spring or pump load. No tools are necessary other than the thumb and finger. The long, highly tempered, flavible, spring is protected from tempered, flexible spring is protected from direct pressure and dirt.

The regular brass pipe work as furnished consists of a special tee with globe valve and by-pass or blow-off pipe as required by Board of Underwriters.

Capacity of this governor is 5 to 500 Flanged pounds discharge, depending on the size of spring and cylinder used. Governor is equipped with spring and cylinder best suited to pressures given on order.

PRICE, EACH—				PRICE, EACH			
ANGLE OR GLOBE							
Size Inches		Standard Flanged 125-Lb Pres.	Ex. Heavy Flanged 250-Lb. Pres.	Size Inches	Screwed 250-Lb. Pres.	Standard Flanged 125-Lb. Pres.	Ex. Heavy Flanged 250-Lb. Pres.
3/8	\$38.00			31/2	\$115.00	\$120.00	\$130.00
3/8 1/2 3/4	38.00	\$48.00	\$50.00	4	140.00		
3/4	41.00	51.00	55.00	41/2		165.00	
1	45.00	55.00	57.50	5		180.00	
11/4	50.00	60.00	62.50	6		225.00	
11/2	60.00	65.00	67.50	7		275.00	300.00
2	70.00	75.00	80.00	8		325.00	350.00
21/2	80.00	85.00	90.00	10		375.00	550.00
3	100.00	105.00	115.00				

Repairs for No. 1 Fisher Constant Pressure Pump Governors



Name of Part Valve Body Head for Body Spring Yoke Male Tee 6 Piston Rod Valve Stem Top Seat Ring Bottom Seat Ring Cylinder Valve Piston Cup 12 Valve Stem Lock Nut 13 Piston Head 15 Follower Nut 16 Cylinder Cap Adjusting Wheels Two-Third Union Stuffing Box 19 20 Nut " Gland 21 22 Angle Valve 23 Globe 24 Nipple 25 Union Tee Nipple 27

Valve Lock Nut 33 Long Nipple Blind Flange (on Large Size 34 31 Nipple Valves) 35 Cap Screw or Stud Bolts

Cylinder Cap Gasket

When ordering, give size and serial number of governor, number and name of parts. Prices upon application.

No. 2 Davis Brass Pressure Regulators Piston Type

For 300 Pounds Initial Steam Pressure



The cylinder is made of high grade bronze tubing. The piston is a bronze casting. These parts are accurately sized by lapping. Piston has rectangular grooves cut the entire length of its surface in which steam is condensed to form a water packing. Friction is negligible. Dash pot attaches to cover so counterweights may be placed to either side of regulator.

Used to automatically reduce high steam pressure down to any desired service pressure. Main-

tains a steady reduced pressure regardless of high pressure fluctuations. Pressure is balanced by counterweight. To change the delivery pressure, change the weights. Dash pot and lever are supported by a swivel bracket and may be placed in any position on either side of regulator. Service pressure determines the amount of counterweight necessary—always specify the pressure.

Valve has no springs, toggles, diaphragm, auxiliary valve,

small ports or packing.
Standard regulators are constructed for steam. Valves of exactly the same outward appearance are constructed for air and water, but have the internal movable parts specially fitted for the service.

Size Inches	Price Each Screwed	Size Inches	Screwed	PRICE, EACH— Standard Flanged	Heavy Flanged
1/2 3/4	\$45.00	2	\$100.00	\$110.00	\$125.00
1	45.00 50.00	2 ¹ / ₂	125.00 150.00	135.00 160.00	150.00 175.00
11/4	55.00	4	200.00	235.00	275.00
11/2	60.00				

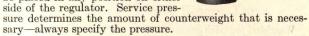
No. 2 Davis Iron Body Pressure Regulators

Piston Type

For 200 Pounds Initial Steam Pressure

This regulator is used to automatically reduce high steam pressure down to any desired service pressure. Having a balanced disc it maintains a steady reduced pressure regardless of high pressure fluctua-

It is made like a pair of balance scales — pressure is balanced by counterweight. To change the delivery pressure simply change the weights. Dash pot and lever are supported by a swivel bracket and may be placed in any position on either



Valve has no springs, toggles, diaphragm, auxiliary valve, small ports or packing.

Standard regulators are constructed for steam. Valves of exactly the same outward appearance are constructed for air and water, but have the internal movable parts specially fitted for the service.

		-PRICE, EACH-			PRICE	, EACH
Size In.	Screwed	Stand- ard Flanged	Extra Heavy Flanged	Size In.	Stand- ard Flanged	Extra Heavy Flanged
2	\$70.00	\$75.00	\$80.00	6	\$225.00	\$235.00
21/2	85.00	90.00	95.00	7	300.00	325.00
3	100.00	105.00	110.00	8	375.00	400.00
31/2	120.00	125.00	130.00	10	575.00	600.00
4	140.00	145.00	150.00	12	825.00	850.00
5		175.00	185.00	14	1025.00	1075.00

Davis Steel-body Piston-type Pressure Regulators

Monel-metal Trimmed

For 350 Pounds Steam Working Pressure and 800 Degrees **Total Temperature**



The Davis Pressure Regulator is used to automatically reduce high steam pressure down to any desired service pressure. Having a balanced disc it maintains a steady reduced pressure regard-less of high pressure fluctuations. It is a piston type of valve with counter-weighted lever control.

Made like a pair of balance scales; pressure is balanced by counterweight. To change delivery pressure simply change weights.

Service pressure determines amount of counterweight that is necessary; specify pressure. Has

no springs or toggles, diaphragm, auxiliary valve, small ports or packing. Its action is visible. Tested by hand. Cylinder is high-grade bronze tubing. Piston is a bronze casting. Both are accurately sized by lapping. Piston has rectangular grooves cut entire length in which steam is condensed to form a water packing. Frieting in which steam is condensed to form a water packing. Friction is negligible. Dash pot attaches to cover so counterweights may be placed to either side of regulator.

Size Inches	Diameter Flanges Inches	Price Each	Size Inches	Diameter Flanges Inches	Price Each
2	61/2	\$200.00	6	121/2	\$650.00
21/2	$7\frac{1}{2}$	250.00	7	14	850.00
3	81/4	300.00	8	15	1100.00
31/2	9	350.00	10	171/2	1600.00
4	10	400.00	12	$20\frac{1}{2}$	2100.00
5	11	500.00	14	23	2600.00

Davis Balanced Valves

For 200 Pounds Working Pressure



The Davis Balanced Valve has double parallel seats and piston disc. It is bal-anced as to internal pressure and must be operated by some force acting on the

It is not a stop valve and should be used only where there is no objection to a slight leakage. It will handle steam, air, gas, water and other fluids. This valve is connected to the lever by a stem and yoke, the stem being guided by a stuffing box. Provision is made in the post which guides the

lever for limiting the throw of the valve.

Valves 1½-inch and smaller, brass; larger sizes have iron bodies, brass trimmed.

	1	PRICE, EACH		PRICE, EACH—Extra		
Size In.	Standard Screwed	Standard Flanged	Extra Heavy Flanged	Size In.	Standard Flanged	Heavy Flanged
1/2 3/4	\$20.00			5	\$150.00	\$160.00
3/4	20.00			6	175.00	185.00
1	25.00			7	225.00	250.00
11/4	30.00			8	250.00	275.00
11/2	35.00			10	350.00	375.00
2	40.00	\$45.00	\$50.00	12	500.00	525.00
21/2	50.00	55.00	60.00	14	650.00	700.00
3	60.00	65.00	70.00	16	800.00	850.00
31/2	80.00	85.00	90.00	18	1000.00	1050.00
4	100.00	105.00	110.00	20	1250.00	1300.00

Fisher Reducing Valves

No. 10, Vertical Type No. 10A, Inverted Type



No. 10A, Inverted Type Flanged—Sectional View

This valve is applicable to a wide range of conditions, reducing steam, air, water, gas or oil. If valve is to be used on anything besides steam, complete information as to nature of the installation must be given.

Made in two styles: No. 10 vertical type and No. 10A inverted type; globe pattern always furnished unless otherwise specified.

When ordering, specify whether globe or angle pattern is wanted, the maximum and minimum high and low pressure and kind of service.

	PRICE, EACH ANGLE OR GLOBE Standard Ex. Heavy					PRICE, EACE	BE-
Size Inches	Screwed 250-Lb. Pres.	Flanged 125-Lb. Pres.	Flanged 250-Lb. Pres.	Size Inches	Screwed 250-Lb. Pres.	Standard Flanged 125-Lb. Pres.	Ex. Heavy Flanged 250-Lb. Pres.
3/8 1/2 3/4	\$32.00			31/2	\$95.00	\$100.00	\$105.00
3/2	32.50		• • • • •	4	115.00	120.00	125.00
1 4	35.00	\$45.00	¢47 FO	41/2		130.00	140.00
11/	45.00		\$47.50	5		140.00	160.00
11/4	1200	50.00	55.00	6		160.00	180.00
11/2	50.00	55.00	60.00	7		200.00	220.00
2	55.00	60.00	65.00	8		240.00	270.00
21/2	65.50	70.00	75.00	10		350.00	480.00
3	80.00	85.00	90.00	12		840.00	975.00

Fisher Reducing Valves

With Increased Outlet



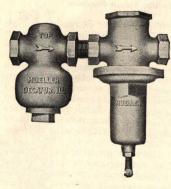
No. 11A, Inverted Type, Flanged

Designed for pressure or vacuum system of steam heating. It has an increased or expanded outlet which allows for quick expansion of steam after passing through the valve from the high pressure side. Its construction will permit it to be used in service where pressure is measured in ounces, and in vacuum heating systems.

Made in two styles: No. 11, vertical type and No. 11-A, inverted type. In ordering, give information regarding pressure and type of valve wanted, as the inverted valve is always furnished unless otherwise specified.

	PRICE, EACH GLOBE					PRICE	, Елсн
Size Inches	Screwed 250-Lb. Pres.	Standard Flanged 125-Lb. Pres.	Ex. Heavy Flanged 250-Lb. Pres.		Size	Standard Flanged 125-Lb. Pres.	
3/8X 3/4 1/2X1 3/4X11/2	\$35.00 35.00 37.50			4	/2x 7 x 8 /2x 9	\$115.00 140.00	
1 x2 1½x2½ 1½x3	45.00 50.00 57.50	\$47.50 55.00 62.50	\$50.00 60.00 67.50	5 6 7	x10 x12 x14	200.00 240.00 290.00	220.00 260.00 310.00
2 x4 2½x5 3 x6	65.00 80.00 95.00	70.00 85.00 100.00	75.00 90.00 105.00	8 10 10	x16 x12 x14	350.00 400.00 430.00	380.00 430.00 460.00

No. G-9000 Mueller Water Reducing and Regulating Valves



This valve is suitable for reducing pressures on cold water services from a maximum of 225 pounds to a delivery pressure of 20 to 75 pounds. By giving the No. G-9000 a full seat opening and equipping it with a special reinforced rubber diaphragm, a valve has been produced that will give a maximum flow of water, close regulation and continued efficient service.

This valve will maintain a steady pressure at

the faucet regardless of the pressure at the inlet side. All working parts are easily accessible. It is not necessary to remove the valve from the line if replacements become necessary.

Any properly working regulator acts as a check valve. A reliable relief valve should be installed in connection with the regulator in every case where the building up of the pressure from any cause is to be avoided.

In ordering, give the following information: Highest and lowest initial pressure in pounds, required low, or delivery pressure, size of valve desired, and, if possible, approximate quantity volume to be used per minute.

Size In.	Approx. Shipping Weight Pounds	Price Each	Size In.	Approx. Shipping Weight Pounds	Price Each
1/4	23/4	\$17.28	1	151/2	\$31.14
3/8	51/2	18.00	11/4	32	77.50
1/4 3/8 1/2 3/4	$6\frac{1}{2}$	18.00	11/2	55	103.86
3/4	93/4	19.36	2	91	150.40

Iron Body Back Pressure Valves

Horizontal and Vertical



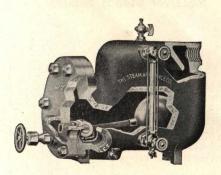
Horizontal, Flanged

Weighted for back pressure up to 5 pounds.

Can be placed in either horizontal or vertical position by changing the position of lever and weight.

Size Inches	Face to Face Flanged Inches	Diameter Flanges	PRICE	, Each
	Inches	Inches	Screwed	Flanged
2			\$11.00	
21/2			13.00	
3			15.00	
31/2		med	19.00	
4			22.50	
5	13	10	33.50	\$37.00
6	14	11	43.00	47.00
7	16	121/2	70.00	75.00
8	191/2	$13\frac{1}{2}$	85.00	90.00
10	241/2	16		130.00
12	271/2	19		200.00
	, 2	Car Property Control		200.00

Peters Corliss Valve Steam Traps



Simple in design. There are but 4 parts to the valve mechanism. The body and the cover of the trap are made of ferro-steel, while the valve casing is of a high grade special steam phosphor bronze. The Corliss valve itself is made of vanadium bronze which is hard and resists wear. A seamless copper re-enforced float is used in Peters Traps while the lever to which the float is attached is made of bronze. Water gauge, air cock and by-pass valve are furnished. Capacities based on 50 pounds pressure.

			CAPACITIES-		
	Pipe Connec-	Maximum Discharge	Sq. Ft.	Lineal' Feet of	
Size No.	tion In.	Pounds per Hour	Heating Discharge	1-Inch Pipe	Price Each
1	1/2	1350	3200	9700	\$26.50
2	3/4	2250	5200	15300	28.50
3	1	4320	10000	30000	36.00
4	$1\frac{1}{4}$	7000	16000	48000	43.00
5	$1\frac{1}{2}$	10700	25000	75000	60.00
6	2	11500	27500	82000	82.00
7	$2\frac{1}{2}$	35000	80000	240000	132.00

Sarco Low and High Pressure Steam Traps



The Sarco Low Pressure Steam Trap is used on pressures from 1 to 50 pounds, and the high pressure steam traps are used from 50 to 200 pounds.

It is so designed that the trap may be installed in any position without requiring supports and floor space.

Inlet	PRICE, EACH		Inlet	et PRICE, EACH		, EACH		
and Outlet In.	Weight Pounds	Low Pres- sure	High Pres- sure	outlet In.	Weight Pounds	Low Pres- sure	High Pres- sure	
3/8	19/16	\$6.00	\$7.75	11/4	111/2	\$24.15	\$28.50	
$\frac{1}{2}$ $\frac{1}{2}$	$\frac{1}{2}\frac{9}{16}$	6.00	7.75	11/2	18 29	30.00 38.70	34.50 48.30	
1 3/4	$\frac{23/8}{31/4}$	9.45 11.25	10.35 12.00	2½ 3	44 49	51.75 60.00	60.00 75.00	

No. 9 Sarco Bronze Steam Traps

This trap is operated thermostatically, and cannot air bind. It has unusually great capacity as it has a large valve area and a quick high lift when discharging. It closes instantaneously and allows no live steam to pass.

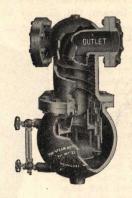
The pressure within the thermostatic, or motor, element balances against the steam pressure and thus the trap is self-adjusting over the entire range from 0 to 100 pounds.

Type 9-1 for pressures from 0 to 30 pounds, brass composition valve head and side.

Type 9-2 for pressures from 0 to 100 pounds, monel metal valve head and seat.

Size	Weight	PRICE	E. EACH
Inches	Pounds	Type 9-1	Type 9-2
1/2	17/8	\$7.50	\$8.50
1/2 3/4	2	10.50	11.50
1	27/8	13.50	14.50

Triumph Horizontal Oil Separators



This oil separator when of proper size, and when properly installed, will deliver water of condensation 99.995 per cent pure.

Prices include companion flanges, bolts and water gauge.

	Face to	Diam.	Diam.	Size		
Size	Face	Flanges	Body	Drain	Wt.	Price
In.	In.	In.	In.	In.	Lbs.	Each
2	91/4	7	10	11/4	125	\$90.00
2 2½ 3	91/4	7	10	11/4	125	90.00
3	$10\frac{1}{2}$	71/2	12	11/4	175	100.00
31/2	13	9	$15\frac{1}{2}$	$1\frac{1}{2}$	325	125.00
4	13	9	151/2	11/2	325	125.00
4½ 5	$13\frac{1}{2}$	10	18	11/2	375	160.00
5	131/2	10	18	11/2	375	160.00
6	161/4	11	20	11/2	600	180.00
7	19	$13\frac{1}{2}$	$23\frac{1}{2}$	2	850	300.00
8	19	$13\frac{1}{2}$	$23\frac{1}{2}$	2	850	300.00
9	23	16	24	21/2	1250	400.00
10	23	16	24	21/2	1250	400.00

Triumph Vertical Oil Separators



This separator is also made for ascending current by reversing the spiral and the concentrator.

Without restricting the passage of exhaust steam or causing any perceptible back pressure, the steam takes a spiral motion, at the same time striking many corrugated baffles, which eliminates the oil, delivers it to special drains and boxes in such a manner that it is syphoned into lower receiving chambers, hence to proper grease trap.

No oil can be picked up by the flow of steam.

The separation and elimination of oil from exhaust, which is the most difficult of all work a separator is called upon to do, is easily and perfectly performed.

Prices include companion flanges, bolts and water gauge.

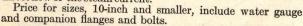
	Face to	Diam.	Diam.	Size		
Size	Face	Flanges	Body	Drain	Weight	Price
In.	In.	In.	In.	In.	Pounds	Each
1					75	\$80.00
11/2	16	5	10	1	75	80.00
2	16	6	10	11/4	100	90.00
21/2	16	7	10	11/4	100	90.00
3	22	71/2	12	11/4	150	100.00
31/2	26	81/2	15	11/2	250	125.00
4	26	9	15	11/2	250	125.00
41/2	30	91/4	16	11/2	300	160.00
5	30	10	16	11/2	300	160.00
6 7	34	11	18	11/2	350	180.00
7	40	$12\frac{1}{2}$	22	2	625	300.00
8	40	131/2	22	2	625	300.00
9	44	15	24	21/2	700	400.00
10	44	16	24	21/2	700	400.00

Victor Horizontal Separators For Steam, Oil, Gas or Air

Steam Working Pressures: Standard, 125 Pounds; Extra Heavy, 250 Pounds

The steam entering separator impinges on a curved corrugated baffle, which precipitates the entrained moisture or oil.

Passing around the outer ends of this baffle the steam impinges on two straight baffles with the same effect, after which the dry steam is again united and passes out of the separator. The entrained moisture or heavy particles of oil adhering to the baffles are forced downward and drop into the lower portion or storage chamber of the separator, out of the direct flow of the steam current.



	FACE TO FACE		DIAM. FLANGES		177			
		IN.	In.			IGHT	Final Control	
Size	Stand-					INDS	PRICE, EACH	
In.		Extra	Stand-	Extra	Stand-		Stand-	Extra
	ard	Heavy	ard	Heavy	ard	Heavy	ard	Heavy
2	9	91/2	6	61/2	70	75	\$40.00	\$40.00
21/2	$12\frac{1}{4}$	13	71/2	71/2	125	140	50.00	50.00
3	$12\frac{1}{4}$	13	71/2	81/4	125	140	50.00	50.00
31/2	141/4	143/4	9	9	190	220	70.00	70.00
4	141/4	143/4	9	10	190	220	70.00	70.00
41/2	15	151/2	10	101/2	275	280	80.00	80.00
5	15	151/2	10	11	275	280	80.00	80.00
6	19	$20\frac{1}{4}$	11	121/2	375	425	110.00	110.00
7	21	22	131/2	14	480	540	160.00	160.00
8	21	22	131/2	15	480	540	160.00	160.00
9	243/4	26	16	161/4	950	1025	220.00	220.00
10	243/4	26	16	171/2	950	1025	220.00	220.00
12	25	27	19	20	1100	1150	250.00	250.00
14	28	$29\frac{1}{2}$	21	$22\frac{1}{2}$		1350	300.00	300.00

Victor Vertical Separators

For Steam, Oil, Gas or Air

Steam Working Pressures: Standard, 125 Pounds; Extra Heavy, 250 Pounds



The steam entering the separator impinges on a conical hood, is expanded and passing around the lower portion of the hood encounters a baffle, which changes its direction of flow.

The dry steam then passes under the hood, and descends directly into the engine throttle.

The oil or condensation is forced to the bottom of the hood and is then precipitated to the lower portion of the separator out of the flow of steam from where it is drained.

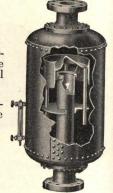
Prices for sizes, 10-inch and smaller include water gauge and companion flanges and bolts.

The Paris		O FACE		FLANGES	WEIGHT				
Size	Stand-	Extra	II II		Po	UNDS	PRICE, EACH		
In.	ard	Heavy	Stand- ard	Extra Heavy	Stand-		Stand-	Extra	
2	151/2	150,000			ard	Heavy	ard	Heav	
	10/2	16	6	61/2	70	75	\$40.00	\$40.00	
21/2	181/2	19	71/2	$7\frac{1}{2}$	110	140	50.00	50.00	
3	181/2	19	71/2	81/4	110	140	50.00	50.00	
31/2	22	221/2	9	9	175	220	70.00	70.00	
4	22	221/2	9	10	175	220			
41/2	251/2	261/2	10	101/2	275		70.00	70.00	
5	251/2	261/2	10			280	80.00	80.00	
6	271/2			11	275	280	80.00	80.00	
	21/2	28	11	121/2	375	425	110.00	110.00	
7	281/4	$29\frac{1}{4}$	$12\frac{1}{2}$	14	480	540	160.00	160.00	
8	301/4	31	131/2	15	480	540	160.00	160.00	
9	44	451/4	16	161/4	950	1025	220.00		
10	44	4514	16	171/2	950	1025		220.00	
12	47	501/2	19	20			220.00	220.00	
14	52	561/2			1100	1150	250.00	250.00	
7.5	04	30/2	21	221/2	1300	1350	300.00	300.00	

Victor Extra Heavy Steel Vertical Receiver Steam Separators

The Victor Extra Heavy Steel Vertical Receiver Steam Separator is made with plate steel heads, plate steel shell and for any desired pressure.

Bottom flanges are drilled to templates furnished when desiring to place same direct on throttle valves.



Size Inches	Diam. Flanges Inches	Face to Face Inches	Size Drain Inches	Weight Pounds	Price Each
4	10	46	1	650	\$140.00
41/2	101/2	50	11/4	750	170.00
5	11	50	11/4	800	170.00
6	121/2	54	11/4	1100	230.00
7	14	58	11/4	1400	300.00
8	15	62	11/4	1750	375.00
3 100	161/4	66	11/2	2100	450.00
10	171/2	69	11/2	2400	475.00
12	$20\frac{1}{2}$	78	11/2	2800	540.00
14	23	85	2	3250	625.00
15	$\frac{24\frac{1}{2}}{2}$	90	2	3575	710.00
16	$25\frac{1}{2}$	96	21/2	4000	800.00
18	28	102	3	4750	900.00
20	$30\frac{1}{2}$	111	3	5800	1025.00

No. W-20 Victor Steel Receiver Separators



The No. W-20 Victor Steel Receiver Separator is made for low pressure oil service as illustrated, or high pressure steam service up to 300 pounds.

State service and pressure when making application for prices.

Base ring and legs are furnished with this separator upon request.

Prices and complete information upon application.



Penberthy Noiseless Steam Water Heaters

The use of this heater does away with all noise such as otherwise occurs when heating a tank or barrel of water or other liquid with steam. It is of special value to creameries, chemical works, breweries, etc.

Size No.	Steam Pipe In.	Disch. Pipe In.	*Cap. Gals.	Price Each	Size No.	Steam Pipe In.	Disch. Pipe In.	* Cap.	Price Each
F	1/4	3/8	50	\$1.50	K	1	11/4	125	\$3.00
GH	3/8	1/2	60 75	1.75	L M	11/4	11/2	175	4.00
J	3/4	1	100	2.50	N	$\frac{11/2}{2}$	$\frac{2}{2\frac{1}{2}}$	250 500	5.00

*Gallons of water heated from 70° to 210° in 30 minutes with 70 pounds steam pressure.

Triumph Exhaust Pipe Heads





Gives perfect separation of steam and water and keeps oil and moisture from the roof and walls of building. Its cast iron construction renders it practically indestructible by the ele-

It is light, durable and self-contained. Besides removing oil and water, it also acts as a muffler and eliminates all exhaust noises.

Sizes from 1 to 4½ inches inclusive are made for screwed connection. Sizes from 5 to 18 inches inclusive are made with flanged connection, and a companion flange and bolts are furnished with the exhaust head. Companion flange larger than 10 inches, extra.

Size			Size		
Exhaust			Exhaust		
Pipe	Weight	Price	Pipe	Weight	Price
Inches	Pounds	Each	Inches	Pounds	Each
1	14	\$18.00	6	98	\$55.00
11/2	14	18.00	7	160	70.00
2	22	23.00	8	180	85.00
21/2	22	23.00	10	300	120.00
3	30	28.00	12	480	140.00
31/2	30	28.00	14	550	225.00
4	38	38.00	16	600	240.00
41/2	38	38.00	18	820	290.00
5	85	45.00			

Iron Body Foot Valves and Strainers







Strainer

Foot Valves, Screwed

I.P. Size	—Prio	E, EACH——	I.P. Size	PRICE	е, Елен—
In.	Black	Galvanized	In.	Black	Galvanized
3/4	\$1.15	\$1.75	3	\$3.90	\$5.75
1	1.30	2.00	31/2	5.60	8.50
11/4	1.40	2.10	4	7.30	11.00
11/2	1.90	2.85	5	11.25	16.75
2	2.40	3.60	6	14.75	22.00
21/2	3.30	5.00	8	41.00	62.00

Strainers

I.P. Size		CE, EACH—	I.P. Size	PRICE, EACH		
In.	Black	Galvanized	In.	Black	Galvanized	
$\frac{11/4}{11/2}$	\$.50	\$.75	31/2	\$3.00	\$4.50	
11/2	.75	1.00	4	3.75	6.00	
	1.00	1.50	5	4.75	7.00	
21/2	1.50	2.00	6	6.50	10.00	
3	2.00	3.00	8	15.00	20.00	



Blakeslee Jet **Pumps**

For raising water and other liquids. Adapted for tan-neries, breweries, creameries, railroad water stations, etc.

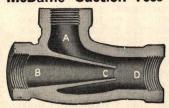
Size	Suction	Discharge	Steam	Capacity	
Pump	Pipe	Pipe	Pipe	Gallons	Price
Inches	Inches	Inches	Inches	per Minute	Each
3/4	3/4	1/2	3/8	8	\$8.00
1	1	3/4	1/2	15	10.00
11/4	11/4	1	1/2	20	12.00
11/2	11/2	11/2	3/4	30	14.00
2	2	11/2	3/4	40	16.00
21/2	21/2	2	1	50	20.00
2½ 3	3	21/2	1	60	24.00
4	4	3	2	250	70.00

Blakeslee Deep Well Jet Pumps

Made with iron body, brass tubes. Size of pump must not be larger than flow of well, and placed so it will be under water when starting. It will lift up to 20 feet, if elevation is not more than 30 feet. It should not be more than 20 feet under high water mark.

	Suction		Stm.					
	and		Pipe	Cap.	Min.			
				per .			AND AND	
Size	livery	Pipe	ing	Min.	Well	Wt.	Price	
In.	In.	In.	In.	Gal	In.	Lbs.	Each	
1	1	1/9	1	15	4	10	\$20.00	
11/4	11/4						30.00	
11/2	11/2						40.00	
2	2	3/4	11/	40	6	16	50.00	

McDanie Suction Tees



This is a fitting that will make all bad jobs of steam heating work well.

Stops one steam connection from backing up on another, prevents all noise when heating water by direct blow of steam

It can be used to advantage in making all connections on heating jobs. Where condensation returns to the boilers, put it on wherever two returns come together. It is required wherever two or more connections are made to the same steam trap, as it will cause all the condensation to flow freely into the trap and avoid the trouble of one backing up on another, and one steam trap can be made to answer for several different connections, avoiding the necessity of putting a steam trap on each return, if all are from the same boiler.

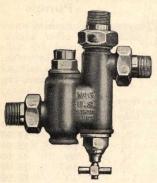
All sizes are made of cast iron.

11/2

Standard Tees

	For 100	Pounds Ste	am Working	Pressure	
Size	Price	Size	Price	Size	Price Each
Inches	Each	Inches	Each	Inches	TO LIBERT WATER
1/2	\$1.50	11/4	\$2.25	21/2	\$5.50
1/2 3/4	1.50	11/2	2.75	3	8.00
1	2.00	2	3.50		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		Extra H	eavy Tees		
	For 250	Pounds Ste	am Working	Pressure	
1	\$3.50	21/2	\$11.00	5	\$43.00
11/4	4.50	3	16.00	6	60.00

U. S. Automatic Injectors



The regular style can be attached on either side of the boiler. Special styles to fit any condition of piping can be furnished. A dis-tinctive feature is the drip cock (see illustration) which has the following special advantages.

It drains the injector when not in use and thus prevents

By leaving it open injector can be started even though the check valve leaks. This is impossible without a drip cock. By opening the drip

cock injector can be started with lower steam. By leaving it open when not in use the suction pipe is prevented from getting hot or the jet from liming up when the steam or check valve leaks. It makes it possible to take hot water out of a hot suction pipe on a long lift. It is always handy for drawing hot water for any purpose when the injector is working.

With feed water at 76 degrees Fahrenheit injector will

start on a four foot lift with 15 pounds steam pressure and work up to 150 pounds steam pressure. Special High Test Injectors can be furnished in all sizes, upon order, and at no

extra charge.

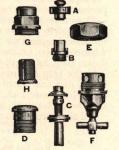
			Based			ased on	Pipe			
			dinary			Water	Connec-		. GAL.	
No.			oular oiler	be	er t	I. P.	tions		R HR.	Price
			The state of the s	E STATE		Hr.	In.	Max.	Min.	Each
00		to	3	1	to		1/4	36	20	\$13.00
0	3	"	6	4	"	8	3/8	65	35	14.00
1	4	"	8	6	"	12	3/6	90	55	16.00
2	8	"	16	10	"	20	1/2	135	65	18.00
3	12	"	22	15	"	30	1/2	180	100	20.00
4	17	"	32	22	"	45	3/4	260	140	25.00
5	20	"	45	25	"	60				
	40	"			"		/4	355	170	30.00
6		"	65	45		80	1	475	300	40.00
7	40		80	50	"	100	1	600	350	45.00
8	50	"	100	60	"	135	11/4	800	425	55.00
9	75	"	135	85	"	165	11/4	1000	525	60.00
10	100	"	180	125	"	235	11/2	1400	800	75.00
11	115	"	255	150	"	320	11/2	1900	950	90.00
12	160	"	320	200	"	380	2	2400	1300	110.00
13	200	"	400	250	"	500	$\overline{2}$	3000	1600	125.00
14	300	"	500	325	"	550	$\bar{2}$	3600	2000	150.00
15	350	"	550	400	"	600	21/2	4000	2200	175.00
16	400	"	600	500	"	750	21/2	4500	2500	200.00
17	600	"	900	750	"	1000	3	5800	3000	400.00

Repair Parts

When at the same steam pressure at which at the same secant present which an injector has for a long time worked satisfactorily, it begins to dribble from overflow, it is an indica-tion that the jets are either clogged by sediment or else worn.

If limed up they should be soaked in a bath of about one part of muriatic acid and eight parts water until clean.

If worn, new parts should be ordered. In ordering parts, always give size and shop number, and specify the parts by the names given below; use no other terms.



					I	PRICE, EA	CH—		. /
I	No. of njector		D Tail Pipe	E, Tail Pipe Nut	A Stem Jet	B Suction Jet	C Deliv- ery Tube	F Deliv- ery Cap.	G, H Overflow Cap and Valve
00	to	3	\$.30	\$.30	\$.80	\$.50	\$1.00	\$1.00	\$.80
4	and	5	.35	.40	1.00	.75	1.10	1.10	.95
6	. "	7	.40	.50	1.15	1.25	1.45	1.45	1.00
8	"	9	.50	.65	1.35	1.50	1.75	1.75	1.25
10		1	.75	.85	1.60	1.75	2.00	2.00	1.50
12		4	1.00	1.20	2.00	2.00	2.50	2.50	2.00
15	" 1	6	1.20	1.50	2.50	2.50	4.00	4.00	3.50

Penberthy Automatic Injectors



A high grade automatic machine; meaning, if the current of water is broken by any cause, the injector will pick up the water and re-establish the current to the boiler without the least attention. Every machine is carefully tested, and will work on the following points: Start low, 20 to 22 lbs. steam on 3-foot lift. Work high, 165 to 170 lbs. steam on 3-foot lift. Lift water, 20 to 24 feet on 60 to 80 lbs. steam. Will deliver water to boiler at 160 to 212

degrees, according to temperature of feed water and steam pressure. Water 200 to 212 degrees can nearly always be delivered at nearly all pressures over 50 lbs. by throttling suction valve and delivering minimum capacity. It is advisable in many cases to install an injector large enough so that the supply can be cut down and attain this result, thereby saving fuel. By placing a short piece of pipe having a stopcock, in the overflow, and closing after the injector has started, water 8 to 10 degrees hotter can be handled, but the injector is rendered non-automatic while the stopcock is closed.

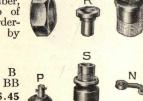
101	1			GALLO	NS PER	
				Hot		
	Н. Р.	H. P.		1 TO 3-F		
	Based on	Based on	Pipe	60 TO 1		
	Ordinary	30 Lbs. Water	Connec-	STEA		G - 1 7 7
Size	Tubular	per H. P.	tions	PRESS		Price
	Boiler	per Hour	Inches	Max.	Min.	Each
0	3 to 6	4 to 8	1/4	60	35	\$15.00
00	4 " 8	6 " 12	3/8	80	45	16.00
A	8 " 16	10 " 20	1/2	135	70	18.00
AA	12 7 22	15 " 30	1/2	180	100	20.00
В	17 " 32	22 " 45	3/4 3/4	260	140	25.00
BB	20 " 45	25 " 60	3/4	360	180	30.00
C	40 " 65	45 " 80	1	475	250	40.00
CC	45 " 80	50 " 100	1	600	325	45.00
D	50 " 100	60 " 135	11/4	800	425	55.00
DD	75 " 135	85 " 165	11/4	1000	525	60.00
E	100 " 180	125 " 235	11/2	1400	740	75.00
EE	115 " 255	150 " 320	11/2	1900	850	90.00
F	160 " 320	200 " 400	2	2400	1275	110.00
FF	200 " 400	250 " 500	2	3000	1600	125.00
GG	375 " 600	400 " 750	21/2	4200	2150	200.00

Repair Parts

R

In ordering parts do not fail to give serial letter and number, which will be found on top of overflow. In referring to or ordering parts, designate them by letter or name.

Size of Injector...... $\left\{ egin{array}{ll} O & A \\ OO & AA \end{array} \right.$

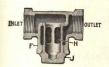


•
Z
G
GG
2.00
3.00
9.00
2.00
1.25
1 50
1.50
1.75
The second secon

LUNKENHEIMER

No. 1031 Lunkenheimer Trusty Underwriter **Bronze Gasoline Strainers**

Horizontal Pattern



The Trusty Gasoline Strainer, having a square removable cap with which the strainer is integral, a bevel metal to metal seat between the cap and body and an arrow on body to indicate ditection of flow, complies with Underwriters' specifications.

Size inches Price, No. 1031 each	1/8	1/4	3/8	1/2
Price, No. 1031each	\$.90	1.00	1.20	1.55

No. 1032 Lunkenheimer Trusty Underwriter **Bronze Gasoline Strainers**

Angle Pattern

The Trusty Gasoline Strainer, having a square removable cap with which the strainer is integral a bevel metal to metal seat between the cap and body and an arrow on body to indicate direction of flow, complies with Underwriters' specifications.



Size	inches	1/8	1/4	3/8	1/2
Price, No. 1032	each	\$.90	1.00	1.20	1.55

Hose and Pipe Strainers







	P	RICE, EAC		PRICE, EACH					
		Hose	SHANK			HOSE SHANK			
е	Pipe		Mall.	Size	Pipe		Mall.		
0	Thrd.	Brass	Iron	In.	Thrd.	Brass	Iron		
8	\$.40			11/2	\$.60	\$.75	\$.60		
2	.40			2	.75				
4	. 45	\$.50	\$.40	21/2	1.00				
100	.50	. 55	.45	3	1.50				
4	.55	.60	.50	4					

Blakeslee Bilge Pumps

This pump is adapted to raising a large amount of water with but little steam. It is not designed to raise water to very great heights, but makes from 18 to 20 feet suction. It is designed to do its work altogether by suction, and should be set so that the discharge opening will be on a line with the point of discharge.



Size Pump In.	Suction Pipe In.	Discharge Pipe In.	Steam Pipe In.	Cap. per Hour Gals.	Price Each
11/2	11/2	11/4	3/4	2400	\$10.00
2	2	11/2	1	3000	14.00
3	3	21/2	1	3600	16.00
4	4	3	11/4	4500	20.00
6	6	4	11/2	8000	30.00



No. 153 Bronze Ground **Key Gasoline Cocks**

Spring Key Type, Lock Washer Rough Body, Lever Handle

Male pipe threaded ends.

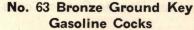
Sizein. ½ ¼ Price, No. **153**...ea. **\$1.15 1.30**

No. 62 Bronze Ground **Key Gasoline Cocks**

Spring Key Type, Lock Washer Rough Body, Lever Handle

Male and female pipe threaded ends.

Size......in. 1/8 1/4 Price, No. 62 ea. \$1.15 1.30



NKENHEIMER

Spring Key Type, Lock Washer Rough Body, Lever Handle

Female pipe threaded ends.

Size ... in. ½ ¼ Price, No. 63 ... ea. \$1.15 1.30

No. 1263 Bronze Ground **Key Gasoline Cocks**

Spring Key Type, Lock Washer Rough Body, Lever Handle

Three way female pipe threaded ends.

.....in. Price, No. 1263 ea. \$3.00 4.50



No. 1039 Bronze Ground **Key Gasoline Cocks**

Spring Key Type, Lock Washer Rough Body, Lever Handle

Male pipe threaded end.

Sizein. 1/8 1/4 Price, No. 1039 .. ea. \$1.15 1.30

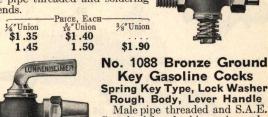
LUNKENHEIMER

3/8" Union

No. 172 Bronze Ground Key Gasoline Cocks Spring Key Type, Lock Washer Rough Body, Lever Handle

Male pipe threaded and soldering union ends.

Price, Each-56"Union \$1.40 Size In. 1/4" Union 3/8" Union \$1.35 1.45 1.50 \$1.90





Standard flared tubing union ends.
Size Price, Each
In. 1/4" Union 1/8 \$1.45 \$1.50 \$2.00 1.55 1.60 Gas Hose Cocks



I.P.	Price	I.P. Connection	Price per
Inches	Dozen	Inches	Dozen
3/4	\$8.00	1/4	\$4.55
1/2	5.25	1/8	4.25
3/8	4.90		

Tee Handle Air Cocks

Ma	le	Bot	th	En	ein

Size	Price	Size	Price
In.	Each	In.	Each
1/8	\$.55	3/8	\$.75
1/8 1/4	.65	3/8 1/2	.90



Tee Handle Air Cocks

Male and Female Ends

Size In	Price Each	Size In.	Price Each
1/g 1/4	\$.75	3/8 1/2	\$.90
1/4	.80	1/2	1.15



Tee Handle Gauge Cocks

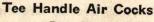
Female Both Ends

Tee	Handle	Air	Cocks
	.70		1.10
1/8 1/4	\$.65	3/8 1/2	\$.85
Size Inches	Price Each	Size Inches	Price Each



Straight Nose

Size Inches	Price	Size	Price
Agenta	Each	Inches	Each
1/8	\$.40	1/2	\$.60
1/4	.45	3/4	.90
3/8	.50	1	1.25



Bibb Nose

Size	Price	Size	Price
Inches	Each	Inches	Each
1/8	\$.70	3/8	\$.90
1/4	.80	1/2	1.00
Can	be furnished	with	threaded

Prices upon application.

nose.

Lever Handle Air Cocks



	Stra	ight Nose	4
Size Inches	Price Each	Size Inches	Price Each
1/8 1/4	\$.55 .60	1/2	\$.75
9/8	.65	1 1	1.15 1.40
Size gon sh	3/8-inch ank.	and over have	hexa-

Lever Handle Air Cocks

Bibb Nose

Size	Price	Size	Price
Inches	Each	Inches	Each
1/8	\$.85	3/8	\$1.05
1/8	.95	3/8	1.15
Can	he furnished	with	throndo

nose.

Prices upon application.

Lever Handle Air Cocks

Male Both Ends

Size Inches	Price Each	Size Inches	Price Each
1/8 1/4	\$.70	3/8	\$.90
1/4	.80	1/2	1.05



Lever Handle Air Cocks

Male and Female Ends

Size In.	Price	Size	Price
	Each	In.	Each
1/8	\$.90	3/8 1/2	\$1.05
1/4	.95	1/2	1.30



Lever Handle Air Cocks

Female Both Ends

Size Inches	Price Each	Size Inches	Price Each
1/8 1/4	\$.80	3/8	\$1.00
1/4	.85	1/2	1.25

Bronze Ground Key Cocks

Spring Key Type, All Finished, Male End



No. 177, Tee Handle

Adapted for air, gas, oils and other liquids.

Size Inches	No. 177 Tee Handle	No. 178 Lever Handle	Size Inches	No. 177 Tee Handle	No. 178 Lever
1/8 1/4	\$.65 .75	\$.70 .90	3/8 1/2	\$1.00 1.30	Handle \$1.15 1.55



No. 176 Bronze Ground Key Cocks

Spring Key Type, Lever Handle Male End, Bibb Nose

Size Inches	No. 176 Price, Ea.	Size Inches	No. 176 Price, Ea.
1/8 1/4	\$.90	3/8	\$1.50
1/4	1.00	3/8 1/2	1.90

No. 174 Bronze Ground Key Cocks

Spring Key Type, Lever Handle Male Both Ends

Adapted for air, gas, oils, and other liquids.

Size No. 174 Size Inches Price, Ea.

1/8 \$.85 3/8 \$1.50

1/4 1.10 1/2 2.00

No. 1038 Bronze Ground Key Cocks

Spring Key Type, Lever Handle Male and Female Ends

Adapted for air, gas, oils, and other liquids.

other I	iquids.		
Size Inches	No. 1038 Price, Ea.	Size Inches	No. 1038 Price, Ea.
1/8	\$.90	3/8	\$1.55



No. 1037 Bronze Ground Key Cocks

Spring Key Type, Lever Handle Female Both Ends

Adapted for air, gas, oils, and other liquids.

Size Inches	No. 1037 Price, Ea.	Size Inches	No. 1037 Price, Ea.
	\$.90		\$1.55
1/8	1.15	3/8 1/2	2.10



Brass Gas Service Stops Flat, Square and Tee Head





Flat Head

Square Head

			CE, EACH-			PRICE	EACH
Size	Flat	Square	Tee	Tee Handle	Size	Flat	Square
In.	Head	Head	Handle	With Check	In.	Head	Head
1/4	\$.90	\$.90	\$.90	\$1.05	1	\$2.10	\$2.10
3/8	1.00	1.00	1.00	1.15	11/4	3.25	3.25
1/4 3/8 1/2 3/4	1.10	1.10	1.10	1.30	11/2	4.60	4.60
3/4	1.30	1.30	1.30	1.55	2	8.00	8.00
Fl	at head	furnishe	ed unles	s otherwise	e orde	red.	

No. 4501B Brass Gas Service Stops

		Tee	Head	without	Check	1.
	Size		, EACH	Size		E, EACH
	In.	Std.	Ex. Hy.	In.	Std.	Ex. Hy.
-	1/8	\$.90	\$1.10	11/4	\$3.25	\$4.50
	1/4	.90	1.10	11/2	4.60	6.50
	3/8	1.00	1.20	2	8.00	11.20
	1/2	1.10	1.30	21/2	17.50	24.50
9	3/4	1.30	1.80	3	27.00	37.80
	1	2.10	3.00	5-17-17		of profession

Brass Gas Service Stops with Lock Standard Flat and Round Way





	PRICE	EACH		PRICE,	EACH
Size Inches	Flat Way	Round Way	Size Inches	Flat Way	Round Way
1/4	\$1.20		1	\$2.50	\$3.70
1/4 3/8 1/2 3/4	1.30	\$1.70	11/4	3.85	5.50
1/2	1.40	1.90	11/2	5.35	8.10
3/4	1.60	2.30	2	9.00	14.40

No. 298 Brass Gas Stove Cocks

With Check-Lever Handle

a.		~	
Size	Price	Size	Price
Inches	Each	Inches	Each
1/4	\$1.15	3/4	\$2.15
3/8	1.25	1	3.25
1/2	1.35		

Brass Gas Meter Cocks







No. 288 Flat Head with Union End

Pric	e, No.	280,	Size,	3/4 Incheach	\$1.30
"	"	288	"	3/4 "	2 35

Brass Steam Cocks Flat and Square Head For 100 Pounds Steam Working Pressure



*Furnished to order only at special prices. Square head furnished unless otherwise ordered.

Three-way Brass Steam Cocks Square Head—With Check For 100 Pounds Steam Working Pressure

With Extra Large Plug and Full Openings

			o poinings		
Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each
1/4	\$1.8C	1	\$3.75	21/2	\$18.75
3/8	2.10	11/4	5.75	3	26.00
1/2	2.50	11/2	7.15		
3/4	2.10 2.50 3.00	2	11.00		

In.	Each	In. Each	
1	\$3.75	21/2 \$18.75	
11/4	5.75	3 26.00	
11/2	7.15		
2	11.00		

Four-way Brass Steam Cocks Square Head—With Check For 100 Pounds Steam Working Pressure

Th	ese cocks ar	e furnished	to order only.		
Size	Price	Size	Price	Size	Price
In.	Each	In.	Each	In.	Each
3/4	\$6.00	1	\$11.00	11/2	\$17.50
3/4	8.50	11/4	14.50	2	25 00

Blue Gates

Lock and Non-Lock Type

First quality gray iron, cast brass slide. Blue enamel finish.

Packed 6 in a box, ½ to 2-inch inclusive, 3-inch bulk.





Size	Wt., Lbs.		THREAD	PIPE	THREAD
Inches	Per Dozen	No.	Per Dozen	No.	Per Dozen
$\frac{1}{2}$ $\frac{3}{4}$	13		. Here	3123	\$16.50
3/4	141/2			3124	17.00
1	20	3118	\$17.60	3125	17.60
11/4	251/2	3119	20.35	3126	20.35
11/2	34	3120	24.20	3127	24.20
2	54	3121	33.00	3128	33.00
3	90	3122	55.00	3129	55.00

Lunkenheimer Bronze Air Nozzles



No. 26, Female Pipe Threaded No. 32, Female Pipe Threaded End with Push Button End with Lever

These air nozzles are time savers and safety-first devices of highest grade. They facilitate quick and positive removal



No. 96, Hose End with Push Button

of dust, chips, dirt, liquid deposits, etc., and insure operatives of complicated machines against accident. Their use eliminates the un-

sanitary hand rag, reduces the waste expense, and dispenses with the time-consuming hand bellows.

The push button type outlets measure 5/64-inch inside diameter.

The lever type outlets measure $\frac{5}{32}$ -inch inside diameter.

These patterns with outlet nose tubes of any practicable shape, length,



No. 5, Hose End with Lever

or inside diameter are procurable on special order.

	PRICE, EACH—					
	Hose	END-	FEMALE PIPE THREADED ENDS			
Size	No. 96 with	No. 5, with	No. 26, with	No. 32, with		
Inches	Push Button	Lever	Push Button	Lever		
1/8 1/4 3/8			\$1.20	\$1.50		
1/4			1.30	1.60		
3/8	\$1.10	\$1.40	1.40	1.70		
1/2	1.20	1.50	140 0			

Lunkenheimer Bronze 3 and 4-Way Steam Stop Cocks

Square Head, Female Screw Ends For 150 Pounds Steam Working Pressure



No. 573, 3-Way 3-Port Key



No. 155, 4-Way 4-Port Key



Sectional View of 3-Way Pattern with 2-Port Key



Sectional View of 3-Way Pattern with 3-Port Key



Sectional View of 4-Way

Position of ports through keys is indicated on top of square head.

Malleable iron lever fitted to the square head key is procurable upon special order.

Size Inches	PRICE, EACH No. 573 No. 155		Size	PRICE, EACH		
Control of the section of		No. 155	Inches	No. 573	No. 155	
1/4 3/8	\$2.00	\$4.00	1	\$4.30	\$8.70	
3/8	2.20	4.40	11/4	6.10		
1/2	2.50	5.10	11/2	11.50		
3/4	3.00	6.00	2	16.00		
Pri	og of No	579 9	11	-0.00		

Prices of No. 573, 3-way pattern with 2-port key, and No. 155, 4-way with 3-port or 2-port key upon application.

No. 805 Lunkenheimer Bronze Straightway Packed Key Stop Cocks

Square Head, Female Screw Ends For 150 Pounds Steam Working Pressure



For service where it is desirable to provide against the leakage to atmosphere incident to the eventual wearing of the bearing between the key and body.

They are provided with an independent key adjustment permitting setting up of the keys to suit varying conditions of service and wear.

Malleable iron lever fitted can be furnished upon special order.

Size	No. 805	Size	No. 805
In.	Price, Ea	In.	Price, Ea
1/2 3/4	\$3.15	11/4	\$7.60
3/4	4.10	1½ 1½	11.00
1	5.15	2	14.00

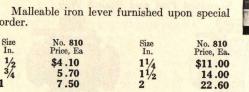
No. 810 Lunkenheimer Bronze Straightway Packed Key Stop Cocks

Square Head, Female Screw Ends

For 250 Pounds Steam Working Pressure

The heavy bolt with friction plate accurately centered at the bottom of key, permits of proper adjustment of the key to suit varying service requirements.

order.



No. 817 Lunkenheimer Bronze Three Way Packed Key Stop Cocks

Square Head, Female Screw Ends

For Steam Working Pressures: 11/2 Inches and Smaller, 250 Pounds; 2 Inches, 200 Pounds



Position of key ports is indicated by lines on top of key.

Malleable iron lever furnished upon special order.

Size	No. 817	Size	N. 010
In.	Price, Ea.	In.	No. 817
			Price, Ea.
1/2	\$5.70	11/4	\$18.00
1/2 3/4	8.60	1½ 1½	23.50
1	13.25	2	38 00

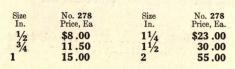
No. 278 Lunkenheimer Bronze Four Way Packed Key Stop Cocks

Square Head, Female Screw Ends

For Steam Working Pressures: 11/2 Inches and Smaller, 250 Pounds; 2 Inches, 200 Pounds

Position of key ports is indicated by lines on top of key.

Malleable iron lever can be furnished upon special order.





Pressure Gauges

Single Spring



The standard type of gauge for steam, water, air, gas or any pressure medium which will not deteriorate brass.

For any standard graduation up to 500 pounds and at extra charge for higher pres-

sures up to 1000 pounds.
Should be graduated to double the actual working pressure.

Unless otherwise specified, gauges will be furnished: sizes 2 and 2½-inch with ½inch male bottom connection;

180

other sizes, 14-inch male bottom connection. No extra charge for back connection.

Prices include a T-handle cock for sizes 3½ to 6-inch inclusive; a small union cock for sizes 63/4 to 10-inch, and a large union cock for sizes 12-inch and larger.

			PRICE.	EACH-		
Size Dial	Inov	Case-	Brass	N. P.	DEEP CA	
In.	Brass Ring	N. P. Ring	Case	Case	Brass	N. P.
16	\$90.00	\$92.00	\$125.00	\$135.00		
12	50.00	51.50	75.00	79.00	\$80.00	\$84.00
10	32.00	33.00	40.00	43.00	44.00	47.00
81/2	22.00	22.75	30.00	32.50	33.50	36.00
$6^{3/4}$	16.00	16.60	20.00	22.00	23.00	25.00
6	13.00	13.50	16.00	17.50	18.50	20.00
51/2	10.00	10.25	12.00	13.25	13.75	15.00
5	8.00	8.20	11.00	12.00	12.50	13.50
41/2	8.00	8.20	10.00	11.00	11.50	12.50
$\frac{41/2}{31/2}$	7.00	7.18	9.00	9.75	10.25	11.00
3	6.00	6.15	8.00	8.60	9.25	9.75
21/2	6.00	6.15	8.00	8.60	9.25	9.75
2	6.00	6.15	8.00	8.60	9.25	9.75

Pressure Gauges Double Spring

Especially designed and recommended for marine or portable work, or any service where there is excessive vibration or rapid fluctuation in pressures.

For any standard graduation up to 500 pounds and at extra charge for higher pressures up to 1000 pounds.

Should be graduated to double the actual working pressure.

Non-corrosive movement with cast hard bronze, extra wide, heavy machine cut gearing.

Sensitive, rigid, non-vibrating, non-freezing springs of solid drawn seamless tube.

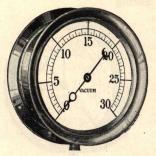
One piece of solid drawn seamless tubing, hand rolled and shaped, passed through and held securely by the socket block, makes the non-freezing double springs. They are rigid, sensitive, uniform in dimension and travel, short, non-vibrat-

ing and self-draining.

Prices include a T-handle cock for sizes 4½ to 6 inches inclusive; a small union cock for sizes 634 to 10 inches, and a large union cock for sizes 12 inch and larger.

			PRICE.	Елсн —				
Size Dial In.	Frass Ring	CaseN.P.Ring	Brass Case	Brass N. P.		DEEP CASE, O. G. OR OCT. RING Brass N. P.		
16	\$105.00	\$107.00	\$140.00	\$150.00				
12	55.00	56.50	80.00	84.00	\$85.00	\$89.00		
10	37.00	38.00	45.00	48.00	49.00	52.00		
81/2	25.00	25.75	34.00	36.50	37.50	40.00		
63/4	18.00	18.0	22.00	24.00	25.00	27.00		
6	15.00	15.50	18.00	19.50	20.75	22.25		
51/2	12.00	12.25	14.00	15.25	16.25	17.50		
5	11.00	11.20	13.00	14.00	15.00	16.00		
41/2	10.00	10.20	12.00	13.00	13.75	14.75		

Vacuum Gauges Single Spring



For the indication of va-

These gauges are graduated from an open mercury column and are warranted to be perfectly accurate.

Hand-made spring of solid drawn seamless tube. Noncorrosive metal movement with machine cut uniform gearing. Carefully inspected, adjusted and tested. Guaranteed for long and continued accurate service.

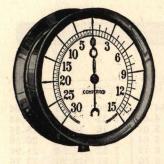
Unless otherwise specified, gauges will be furnished, sizes 2 and $2\frac{1}{2}$ -inch with $\frac{1}{8}$ -inch male bottom connection; other sizes, $\frac{1}{4}$ -inch male bottom connection. No extra charge for back connection.

Prices include a T-handle cock for sizes $3\frac{1}{2}$ to 6 inches inclusive; a small union cock for sizes $6\frac{3}{4}$ to 10 inches, and a large union cock for sizes 12-inch and larger.

			PRICE.	Еасн-	<u> </u>			
Size	incar block		The state of the			DEEP CASE, O. G.		
Dial		CASE-	Brass	N. P.	OR OCT.	N. P.		
In.	Brass Ring	N. P. Ring	Case	Case	Brass	14. 1.		
16	\$90.00	\$92.00	\$125.00	\$135.00	.:::::	11/11		
12	50.00	51.50	75.00	79.00	\$80.00	84.00		
10	32.00	33.00	40.00	43.00	44.00	47.00		
81/2	22.00	22.75	30.00	32.50	33.50	36.00		
63/4	16.00	16.60	20.00	22.00	23.00	25.00		
6	13.00	13.50	16.00	17.50	18.50	20.00		
51/2	10.00	10.25	12.00	13.25	13.75	15.00		
5	8.00	8.20	11.00	12.00	12.50	13.50		
41/2	8.00	8.20	10.00	11.00	11.50	12.50		
31/2	7.00	7.18	9.00	9.75	10.25	11.00		
3	6.00	6.15	8.00	8.60	9.25	9.75		
21/2	6.00	6.15	8.00	8.60	9.25	9.75		
2	6.00	6.15	8.00	8.60	9.25	9.75		

Compound Pressure and Vacuum Gauges

Single Spring



For use where either pressure or vacuum is to be indicated.

Standard graduation is 15 pounds pressure and 30 inches vacuum. Can be furnished for pressures up to 500 pounds.

Hand made spring of solid drawn seamless tube. Noncorrosive metal movement with machine cut gearing.

Unless otherwise specified, sizes 2 and 2½-inch furnished with ½-inch male bottom connection; other sizes

1/4-inch male bottom connection. Back connection optional. Prices include a T-handle cock for sizes 3½ to 6 inches inclusive; a small union cock for sizes 6¾ to 10 inches, and a large union cock for 12 inches.

	1		PRICE,	EACH-		5 350
Size Dial In.	Frass Ring	Case—— N. P. Ring	Brass Case	N. P. Case	DEEP CA OR OCT Brass	se, O. G. RING N. P.
12	\$60.00	\$61.50	\$80.00	\$84.00	\$85.00	\$89.00
10	40.00	41.00	50.00	53.00	54.00	57.00
81/2	30.00	30.75	40.00	42.50	43.50	46.00
63/4	20.00	20.60	25.00	27.00	28.00	30.00
6	16.00	16.50	20.00	21.50	23.00	24.50
51/2	14.00	14.25	16.00	17.25	18.50	19.75
5	14.00	14.25	16.00	17.25	18.50	19.75
41/2	12.00	12.20	14.00	15.00	16.00	17.00
31/2	10.00	10.18	12.00	12.75	13.75	14.50
3	9.00	9.15	11.00	11.60	12.25	12.75
21/2	9.00	9.15	11.00	11.60	12.25	12.75
2	9.00	9.15	11.00	11.60	12.25	12.75

Altitude Gauges

Single Spring

The black hand indicates the height of water. The red hand is independent from the gauge tube and set by the user at the proper altitude to be maintained.

Standard graduation is 70 feet. Can be furnished for any required altitude.

Should be graduated to double the maximum altitude to be registered.

Hand-made spring of solid drawn seamless tube. Non-

corrosive metal movement with machine cut uniform gearing. Carefully inspected, adjusted and tested.

Unless otherwise specified, gauges will be furnished 1/4-inch male bottom connection. No extra charge for back connection.
This instrument can be supplied with U. S. Navy specifi-

cation case, interior and test.

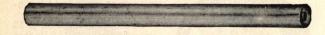
Prices include a T-handle cock for sizes 3½ to 6 inches

inclusive; a small union cock for sizes 63/4 to 10 inches, and a large union cock for 12 inch.

Size Dial In.	IRON CASE————————————————————————————————————		Brass Case	N. P. Case	DEEP CASE, O. G. OR OCT. RING Brass N. P.	
12	\$60.00	\$61.50	\$80.00	\$84.00	\$85.00	\$89.00
10	40.00 30.00	41.00	50.00	53.00 42.50	54.00 43.50	57.00 46.00
8 ¹ / ₂ 6 ³ / ₄	20.00	20.60	25.00	27.00	28.00	30.00
6	16.00	16.50	20.00	21.50	23.00	24.50
51/2	14.00 12.00	14.25 12.20	16.00 14.00	17.25 15.00	18.50 16.00	19.75 17.00
41/2	12.00	12.20	14.00	15.00	16.00	17.00
31/2	10.00	10.18	12.00	12.75	13.75	14.50

Scotch Gauge Glasses

For 200 Pounds Steam Pressure



Lgth.			Francis	ICE, PER D	OZE N-	AND THE PERSON NAMED IN	-
In.	1/2	5/8	-EXTERN	AL DIAMETI	ER, INCHES	11/4	11/2
8	\$1.92	\$2.52	\$3.00	\$4.08	\$4.92	\$8.16	\$14.64
9	2.04	2.76	3.36	4.68	5.52	9.24	16.44
10	2.28	3.00	3.60	5.04	6.12	10.20	18.36
11	2.64	3.24	3.96	5.64	6.72	11.16	20.16
12	2.76	3.60	4.32	6.12	7.32	12.24	21.96
13	3.00	3.84	4.80	6.60	7.92	13.20	23.76
14	3.24	4.20	5.16	7.08	8.52	14.28	25.56
15	3.48	4.44	5.52	7.56	9.12	15.24	27.48
16	3.72	4.80	5.88	8.16	9.72	16.32	29.28
17	3.96	5.04	6.24	8.64	10.32	17.28	31.08
18	4.20	5.40	6.60	9.12	10.92	18.36	32.88
19	4.44	5.64	7.08	9.60	11.52	19.32	34.68
20	4.68	6.00	7.44	10.20	12.12	20.28	36.60
21	4.80	6.36	7.80	10.68	12.84	21.36	38.40
22	5.04	6.60	8.16	11.16	13.44	22.44	40.20
23	5.28	6.96	8.52	11.64	14.04	23.40	42.00
24	5.52	7.20	8.88	12.12	14.64	24.36	43.80
30	6.96	9.00	11.16	15.24	18.24	30.60	54.96
36	8.28	10.80	13.44	18.24	21.96	36.72	65.88
42	9.72	12.60	15.72	21.36	25.68	42.84	76.92
48	11.04	14.52	18.00	24.36	29.16	48.96	87.84
54	12.48	16.32	20.28	27.48	33.00	55.08	98.88
60	13.80	18.12	22.56	30.48	36.48	61.20	109.80
66	15.24	20.04	24.84	33.48	40.32	67.32	120.84
72	16.56	21.84	27.12	36.48	43.80	73.44	131.76

Lengths not regular are charged at price of next larger tubes of same diameter.

Type G Steam Gauge Hand **Jacks**

This hand jack fits all sizes.

Price, Type G.....each \$4.50

Steam Gauge Siphons

Straight

1.00

1.50

Price, Type PI, Iron..ea. \$.25 "BB, Brass." 1.00 PN, N.P.." 1.50 Angle PF, Iron..es PC, Brass. PP, N.P.. Price, Type Iron..ea.

Chesterton Gauge Glass Cutters



Price, Nickel-Plated.....each \$2.00

Gilbert's Self-packing **Glass Protectors**

Sizeinches Price per box \$.60 . 60

Sizes, ½, 5% and 34-inch, packed one dozen in box. 1-inch size ½ dozen in a box.

Rubber Gauge Glass Washers



PRICE, PER DOZ. Square Round Round \$.36 \$.48 .36 .36 .60



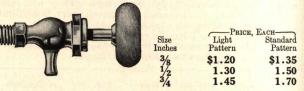
No. 2011 Square

No. 689 Round

Compression Gauge Cocks



Compression Gauge Cocks with Stuffing Box



No. 979 Bronze Steam Gauge Cocks



Lever Handle **Beaded End Pattern** Female End and Male Union

No. 979 Price, Each Siz In. \$1.40 1.50 1.60

Lunkenheimer Renewo Extra Heavy **Bronze Weighted Gauge Cocks**

For 300 Pounds Working Steam Pressure



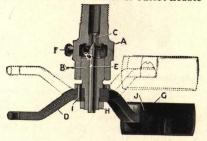
The seat and disc are made of rolled monel metal. The disc is provided with a slot in the exposed end, facilitating regrinding, should the seating surface become worn. The body hub and lock-nut are of Valve-bronze. The lever is of malleable iron, and

the weight of cast iron. Every part of this gauge is renewable.

Extension chains and brass rings, S-hooks or wood handles are procurable on special order. The long shank pattern, No. 1308, measuring four inches from center of outlet nozzle

to end of shank, is designed for installations in which the gauge cocks are attached directly to the boiler.

Unless otherwise specified, regular shank pattern, No. 1264, measuring 13/4 inches from center of outlet nozzle to end of shank, will be furnished.



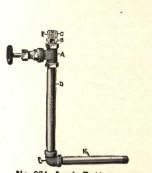
Sectional View

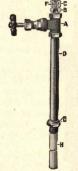
 Price, No. 1264, ½ or ¾-Inch Connection.
 each \$5.00

 Price, No. 1308, ¾-Inch Connection.
 each 6.00

Lunkenheimer Bronze Low Water Fuse Alarms

For Steam Boilers





No. 974, Angle Pattern

No. 1111, Straight Pattern

The function of this low water fuse alarm is not only to give prompt warning of a dangerously low water level, but also to prompt warning of a dangerously low water level, but also to permit restoration of proper level without interfering with continuous operation of boiler. This device may be easily installed in any type of boiler and is adapted for any working pressure up to 250 pounds. Fusible discs for this alarm are made of alloys suitable for the following ranges of pressure: from 1 to 10 pounds, from 11 to 30 pounds, from 31 to 50 pounds, from 51 to 100 pounds, from 101 to 150 pounds, from 151 to 200 pounds, from 201 to 250 pounds. Range of pressure is stamped on bronze casing.

1	PIPE SIZE BOILER CONN., IN. Angle Strt. 1/2 3/4	Size Pipe H In.	Ht. from E In. 14	Center of K to Top In. 135/8	Center of D to End of K, In.		†No. 1111 \$10.00	Extra Fusible Discs \$.50
Second	*Angle pa	ttern,	with o	ne extra	fusible	disc.		

†Straight pattern without internal pipe H, with one extra fusible disc.

No. 0000 Expansion Tank Water Gauges

This gauge is used in connection with hot water systems. Standard finish is rough body with polished trimmings.

It is threaded for ½-inch iron pipe.

Has T handle drip cock.

The glass is protected by two guards. It is 5/8inch by 12 inches.

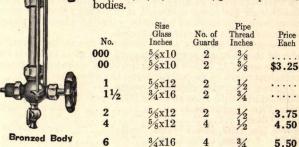


Price, No. 0000each \$2.60

Self-cleaning Water Gauges

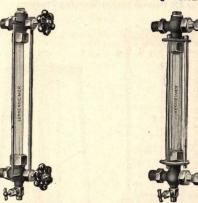
With Iron Wheels

Nos. 000, 1, and $1\frac{1}{2}$ have rough body. Nos. 00, 2, 4, 6 and $6\frac{1}{2}$ have polished bodies.



Lunkenheimer Bronze Plain Water Gauges

For 200 Pounds Steam Working Pressure



No. 459, Two Rod

No. 460, Three Rod

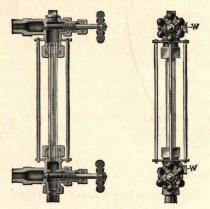
Designed to prevent glass breakage incident to springing of the upper and lower fittings, even at the maximum pressure rating. Equipped with drain valves, of the tee handle, needle valve type, with plain outlet nose and 1/4-inch male inlet.

Orders should specify figure number, sizes of shank and glass, distance between centers of connections, and desired finish. Unless otherwise specified, part finished gauge with iron handwheels and with glass and rods for 18-inch centers will be furnished.

			S. DOWNER D. S.	PRICE,	EACH_		
Size		No. 459.	Two Rop	No. 460, T		No. 970, I	Four Pop
Pipe	Size	Part Fin.		Part Fin.	All Fin.	Part Fin.	
Connec.	Glass	with Iron					with Wood
In.	In.	Handwh'l	Handwh'l	Handwh'l		Handwh'l	Handwh'l
3/8 1/2 3/4	1/2	\$2.75	\$3.50	\$3.50	\$4.50	\$4.00	\$5.00
1/2	1/2 5/8 3/4	3.00	3.75	4.00	5.00	4.50	5.50
3/4	3/4	6.00	8.00	8.00	9.50	8.50	10.00

Lunkenheimer Bronze Water Gauges

Regrinding, Non-automatic For 300 Pounds Steam Working Pressure



Sectional Front No. 1332. Hand Wheel Control

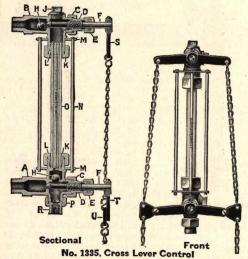
The non-automatic type requires the closing of the shutoff valves in event of glass breakage. Furnished either with handwheels for direct operation of the stop valves, or with cross lever and chain to facilitate operation when the gauge is connected beyond convenient reach.

The seating surfaces of the stop valves can be reground should they become worn. Equipped with glass and rods for centers up to 18 inches and, in the chain operated patterns, sufficient chain to properly connect the cross levers.

Unless otherwise specified, gauges will be furnished part finished and with glass and rods for 18-inch centers. Price, No. 1332, Hand Wheel Control each \$20.00

Lunkenheimer Bronze Water Gauges

Regrinding, Automatic For 300 Pounds Steam Working Pressure



In the automatic type, the inlets to the glass automatically close upon breakage of the glass. The seating surfaces of the stop valves can be reground should they become worn.

Equipped with glass and rods for centers up to 18 inches and, in the chain operated pattern, sufficient chain to properly connect the cross levers. Unless otherwise specified, gauges will be furnished part finished and with glass and rods for 18-inch centers.

 Size, Pipe Connection.
 inches
 ½ or ¾

 " Glass.
 "
 ¾

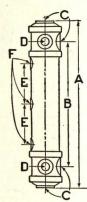
 Price, No. 1333, Hand Wheel Control.
 each
 \$21.00

 " 1335, Cross Lever
 "
 23.00

Water Columns

For 250 Pounds Steam Working Pressure





Body Complete with Trimmings

Dimensions

No.	Lgth. Over All In.	CONNECTION Boiler and Water Gauge		Size C Boiler and End	Water Gauge	ons, In. Gauge Cock	Gauge	Body Only Price Each
1	133/8	10	33/8	1/2	1/2	3/8	2	\$2.75
2	163/4	121/2	33/4	3,4	1/2	1/2	3	4.00
3	187/8	14	41/2	1	3/4	1/2	3	6.00
4	$23\frac{5}{8}$	18	4	11/4	3/4	3/4	3	8.00

When ordered complete, trimmings for 175 pounds working pressure will be furnished, unless otherwise specified.

Lunkenheimer Vigilant Iron Body Bronze Mounted Safety Water Columns

For 250 Pounds Steam Working Pressure



The automatic whistle control is simple and positive. When the water falls to an extremely low level, the weight of the float pulls down the lever, which opens the whistle valve. When the level rises sufficiently, the stop engages the lever, and since the lever is double-acting, its motion up or down will open whistle valve. The stop is adjustable, allowing the whistle alarm for the high level to be set as desired.

All sizes tapped on both sides for gauge cocks, and a set of plugs provided, allowing the Vigilant to be made either right or left-hand by transposing gauge cocks and plugs.
Cast steel water columns furnished on spe-

cial order; prices upon application.

Boiler Connections.—Sizes 4, 5, 7 and 8 have steam connection at top; size 6, at back, 14 inches center to center; size 9, at back, 311/2 inches center to center.

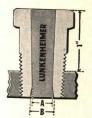
Size		CENTI Water Gauge	Gauge	Lgth.	Varia- tion between Alarms	Price No. 919	c, Each No. 1258
No.	of Boilers	Connec.	Cocks	In.	In.	Screwed	Flanged
4	Horiz. Return Tubu-						
	lar, 34 to 56-in	12	3	301/9	6	\$26.00	
*5	Same, 60 to 84-in	15	4	351/2		28.00	
*6	Water Tube	15	4	351/2	8	28.00	
7	" "	18	5	401/2	10	34.00	
	Vertical	24	71/2	513/8	15	40.00	
9	Stirling Type	20	4	493/8	131/2		\$48.00
41.78.7		-					7 100 200 100

*Nos. 5 and 6 are identical except that provision has been made for connecting steam pipe at rear of No. 6 column for use with B & W type of water tube boilers.

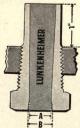
No. 9 is a flanged column for types F, G, K, L, M, N, O & Q Stirling boilers. Flanged columns for other types of boilers are available on special order.

boilers are available on special order.

Lunkenheimer Fusible Plugs



No. 1326 Inside Pattern Regular Standard



No. 1327 Outside Pattern Regular Standard



No. 1328 Inside Pattern High Pressure



No. 1329 Outside Pattern High Pressure

Lunkenheimer Fusible Plugs have a heat number stamped on each end of the fusible core. This heat number is the mark of approval of the Steamboat Inspection Service, Department of Commerce. Samples of each heat are submitted to the Department for test and approval. No plugs of any heat are released for sale until the Department reports its approval of samples from the heat. Users, therefore, are assured of approved fusible plugs.

Lunkenheimer Fusible Plugs have standard pipe threads. The exceptionally long taper fits not only standard pipe threaded holes, but also holes that have been tapped oversize. Lunkenheimer Fusible Plugs are filled with pure Banca tin.

The regular standard plugs carry the marking R-S, number and heat number. The high pressure plugs carry the marking H-P, number and heat number.

Nos. 1326 and 1327 Regular Standard Patterns with Large Core for Stationary and Portable Boilers for Marine Boilers on River and Harbor Boats

Nos. 1326 and 1327 plugs conform to both the A.S.M.E. code and the Rules and Regulations of Steamboat Inspection Service, Department of Commerce. These plugs are used in land service on stationary and portable boilers. They are also used in marine service and are generally preferred on river and harbor boat boilers.

Nos. 1328 and 1329 High Pressure Patterns with Small Core for Marine Boilers on Ocean and Lake Vessels

Nos. 1328 and 1329 plugs conform to Rules and Regulations of Steamboat Inspection Service, Department of Commerce, which permit the use of plugs having core ½ inch diameter at smaller end for pressure exceeding 150 pounds. These high pressure plugs are used in marine service and are generally preferred on ocean and lake vessel boilers.

Dimensions: A, smallest diameter of core R-S pattern; B, diameter flared core, R-S pattern; C, smallest diameter of core, H-P pattern; D, diameter flared core, H-P pattern.

Size				PRICE, EACH—				
In. 3/8	A 1/4	B 5/16	C 1/4	D' 5/16	1326 \$1.40	1327	1328 \$1.40	1329 \$1.50
1/2 3/4	1/2 1/2	9 16 9 16	5/6 5/6	3/8 3/8	1.60 2.00 2.75	\$1.70 2.20 3.00	1.60 2.00 2.75	1.70
11/ ₄ 11/ ₂	1/2	9 16 9 16	5/16 5/16	3/8	4.25 6.00	4.75 7.00	4.25 6.00	3.00 4.75 7.00

No. 482 Lunkenheimer Senior Bronze Lubricators

Double Connections With Sight Feed and Indicator Glasses



The Senior Lubricator should be connected into the steam pipe above the throttle valve. It permits of close feed regulation.

It is suitable for 200 pounds steam working pressure.

Condenser connections are not furnished unless specified on order.

Finished bronze lubricators are furnished unless otherwise specified.

Complete directions for installing and operating are provided with each lubricator.

Cap. Pts.	I.P. Thread In.	Price Fin. Bronze	N.P. Bronze	Cap. Pts.	I.P. Thread In.	Price Fin. Bronze	E, EACH N.P. Bronze
1/3 1/2 2/3 1	3/8 3/8 1/2 1/2	15.00 17.00 20.00 22.00	17.00 19.00 22.50 25.00	1½ 2 4	1/2 1/2 1/2 1/2	\$25.00 28.00 38.00	\$28.50 32.00 43.00

Condenser Connections

C	I.P		, EACH		I.P.	Price	е, Елсн
Cap. Pts.	Thread In.	Fin. Bronze	N.P. Bronze	Cap. Pts.	Thread In.	Fin. Bronze	N.P. Bronze
1/2	3/8	6.90	7.60	11/2	1/2	\$11.50	\$12.60
1/3 1/2 2/3	3/8	8.00	8.80	2	1/	12.70	13.90
2/3	1/2	9.10	10.00	4	1/2	14.50	16.00
1	1/2	10.30	11.30				

Lunkenheimer Junior Bronze Lubricators Single Connection With Sight Feed

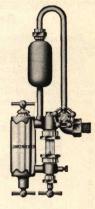
Suitable for 150 pounds steam working pressure and should be connected into the steam pipe above the throttle valve.

No. 486 has Iron Condensing Chamber, Pipes and Hand Wheel.

No. 270 has Bronze Condensing Chamber, Pipes and Wood Hand Wheel.

Part finished lubricator will be furnished unless otherwise specified.

	I.P.	Price, Each No. 486
Cap.	Thread	Part
Pts.	In.	Finished
1/4	3/8	\$7.00
1/3	3/8	8.00
1/2	1/2	10.00



No. 1301 Lunkenheimer Paragon Lubricators

For gas, gasoline or oil engine cylinders. Glass body; cast bronze base and top. Equipped with sight feed.

Finished bronze lubricator furnished un-

4-4	less of	herwise sp	ecified.		
LUNKENHEIMER	Size No. 1½ 2	$\begin{array}{c} \text{Cap.} \\ \text{Oz.} \\ 1\frac{1}{2} \\ 2\frac{1}{2} \end{array}$	I. P. Thread In. 1/4 3/8	Height Over All Inches 51/2 6	Fin. Bronze Price Each \$4.75 5.25
	3 4	4 5	3/8 3/8	61/4	5.75 6.50
	5 6 8	10 18 32	1/2 1/2 3/4	7 ³ / ₄ 8 ³ / ₄ 10	9.00 12.00 25.00

No. 171 Lunkenheimer Premier Bronze Lubricators



For gas, gasoline and oil engine and low pressure air compressor cylinders.

Equipped with sight feed.

By closing main valve the reservoir may be refilled under service without disturbing feed regulating valve.

Size No.	Capacity Ounces	I. P. Thread Inches	Each Finished Bronze
0	11/2	3/8	\$5.70
2 3	$\frac{3\frac{1}{2}}{4\frac{1}{2}}$	1/2	6.70 7.60
4 5	6	1/2	9.50
9	10	/2	10.00

No. 487 Lunkenheimer Major Bronze



With Sight Feed, for Small Steam Engine and Pump Cylinders

Bull's-eye glasses are provided. The space between the glasses is wide enough to prevent the oil spattering their surfaces under normal service conditions.

	And the family in the same		Price
Size No.	Cap. Oz.	I.P. Thread In.	Each Finished Bronze
1	$2\frac{3}{4}$	3/8	\$4.00
2 3	$3\frac{3}{4}$	1/2	5.00
	5	1/2	6.00
4	6	1/2	8.00
5	10	1/2	10.00
6	18	3/4	12.00

No. 489 Lunkenheimer Banner **Bronze Lubricators**

For air compressor cylinders and blowers.

Equipped with sight feed.

The stop valve controls the main inlet and discharge channel and permits refilling of the oil reservoir under service.

			Price
		I.P.	Each
Size	Cap.	Thread	Finished
No.	Oz.	In.	Bronze
0	2	3/8	\$4.40
1		3/8	4.60
1 2 3 4 5	$\frac{23/4}{33/4}$	1/2	5.00
3	5	1/2	6.00
4	6	1/2	8.00
5	10	1/2	10.00
6	18	3/4	12.00



No. 498 Lunkenheimer Bronze Plain Engine Lubricators with Valve

The No. 498 Lubricator is furnished without drain cock or tube.

		I. P.	Finished
Size	Cap.	Thread	Bronze
No.	Oz.	In.	Price, Each
0	1	3/8	\$2.20
1	2	3/8	2.40
2	23/4	1/2	2.60
2 3	33/4	1/2	2.90
4	5	1/2	3.25
5	6	1/2	3.75
6	10	3/4	4.75
6	18	3/4	7.00
8	28	3/4	10.00

Lunkenheimer Invincible Iron Body Mechanical Oil Pumps



No. 1014 Two Feed Unit

These pumps are designed as a positive lubricating device for cylinders of reciprocating engines and compressors subject to continuous operation over extended periods under high pressures and widely varying loads.

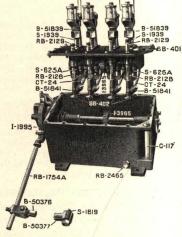
Also, they are used on the highduty internal combustion motors of the Diesel and semi-Diesel types. The thoroughly practical and stable construction of their operating mechanism and the wide range of feed regulation without interference with their definite function, are features which make these devices applicable as absolutely dependable lubricators for almost any type of heavy duty cylinder or high pressure bearing.

The power of the Invincible mechanism is evidenced by the fact that each force pump in each

of the entire range of units is rated to deliver against a pressure of 2000 pounds per square inch.

In all units each delivery feed has its indi-vidual sight chamber, feed regulation, measuring and force pumps, and outlet connection to provide easy, quick, independent control of the volume of oil delivered through each discharge line.

All parts subject to wear are of hardened steel and the bronze bearings are of large proportions. The force pump plungers are provided with stuffing boxes of ample size to permit proper packing. The reservoir may be drained through plug RB-2465. Gauge glass indicates the quantity of oil in the reservoir.



Four Feed Unit Showing Accessibility

The filling hole is equipped with a removable strainer and protected by a sliding cover.

To insure an atomized discharge at the point of lubrication, simultaneous with the discharge from the force pump cylinders, the line check valve, No. 1313, should be installed at the extreme outlet end of each oil delivery pipe. When thus installed, a full column of oil is maintained in the procedule of the control of th

tained in each delivery pipe.



Regular equipment includes one No. 1313 bronze line check valve for each feed on the pump.

No. 1313 Bronze Line Check Valve

Both No. 1313 and all the outlet connections of the Invincible are tapped for 1/8-inch

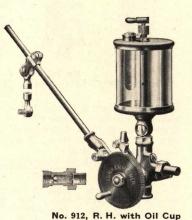
		PRICE,	EACH	
No. of Feeds		o. 1014, LEFT HAND- CAPACITY, QUARTS—		No. 1313 Extra Bronze Line Check Valve for Delivery Line
1	\$40.00	\$43.00		\$2.00
2		55.00	\$64.00	2.00
3	X		78.00	2.00
4			93.00	2.00

Lunkenheimer Marvel Bronze Mechanical Oil Pumps

Single Feed

The Marvel functions mechanically only while the prime mover to which it is connected is operating. It not only automatically starts and stops, but also synchronizes with the variable speeds of the prime mover.

However, the ratio of the strokes of the plunger to the speed of the prime mover can be regulated, as the link may be set in or out on oscillating driving rod to obtain any desired practical degree of revolution of ratchet wheel.



			PRICE	EACH
Capacity Pints	*Mount- ing Connec- tion Inches	†Delivery Connection and Check Valve Inches	No. 912 with Oil Cup, Fin. Bronze	‡No. 1311 Extra Bronze Union Check Valve
1 2 4	5/8 5/8 3/4	1/8 1/8 1/8	\$19.00 24.00 31.00	\$1.25 1.25 1.25

*Bolt thread. †Pipe thread. ‡For delivery line.

Lunkenheimer Bronze Oil Gauges With Revolvable Shield







No. 529, with Drain Cock

The economical results which self-oiling bearings and open erank cases are intended to effect are most uncertain unless the contents of the oil pocket or reservoir are readily observable.

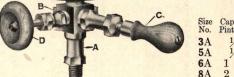
Lunkenheimer Oil Gauges embody features of unusual practical value. All parts are heavily proportioned. The slotted brass shield facilitates a clear vision of the oil level from any desired angle, and being revolvable, it permits the cleaning of the gauge glass without disassembling. A vent is provided in the cap at top to insure correct registering of the oil level within the glass.

No. 529 is equipped with a cock for draining the oil pocket. Finished bronze oil gauges are supplied unless otherwise specified, and if number is not given No. 529 will be furnished.

		PRICE	. Еасн —	
Size	No. 52	8 PLAIN-		WITH COCK
In.	Fin. Bronze	N. P. Bronze	Fin. Bronze	N. P. Bronze
1/8	\$.40	\$.55	\$.80	\$1.00
1/4	.50	.65	.90	1.10
3/8	.65	.80	1.05	1.25
1/2	1.00	1.20	1.40	1.65

No. 853 Lunkenheimer Universal Hand Oil Pumps

A plain push plunger type pump. The interchangeability of shank A and plug B permits of their transposition and installation of the Universal for either vertical or horizontal discharge. Has glass body, bronze base and top. The all finished pump with glass body will be furnished unless otherwise specified.



Size No.	Cap.	I.P. Thread Inches	Price Each Fin. Bronze
3A	1/8	3/8	\$7.50
5A	1/2	3/8	8.50
6A	1	1/2	10.00
8A	2	1/2	15.00

No. 495 Lunkenheimer Alpha Oil Pumps

The No. 495 Alpha Glass Body Oil Pump is intended to be used in connection with sight feed lubricators on stationary or marine engines.

Has bronze base and top.

Size No.	I. P. Thread In.	Cap. Pints	Price Each Bronze Fin.
3 5	3/8	1/8	\$7.50
6	1/2 1/2	1 2	8.50 10.00
8	1/2	2	15.00

No. 494 Lunkenheimer Bronze Independent Sight-feeds

These sight-feeds are applicable in installations where the oil is supplied to a series of engines from a tank centrally located.

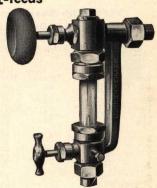
Waste of oil due to filling

of a number of individual cups is eliminated and time thereby saved.

The male outlet shank is threaded for 3/8-inch pipe, and inlet female union for 1/4-inch pipe thread.

Price, No. 494, Fin. Bronze. each \$6.00 Price, No. 494, N. P.

Bronze.....each 7.00





Lunkenheimer Oil Cup Glasses and Washers

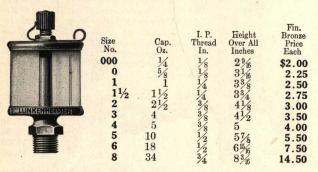
For lubricators, oil cups, oiling devices, etc. Glasses cylindrical in shape, clear, strong and uniform in size. Interchangeable with all styles of cups.

No. 1062

			No. 526 Glasses	No. 1062 Washers				No. 526 Glasses	No. 1062 Washers
Size	O. D.	Ht.	Price	Price	Size	O. D.	Ht.	Price	Price
No.	In.	In.	Each	per Doz.	No.	In.	In.	Each	per Doz.
000	1	7/8	\$.40	\$.45	3	21/4	21/8	\$1.00	\$1.30
00	11/8	1	.50	.50	4	21/2	23/8	1.10	1.40
0	11/4	11/8	.60	.60	5	3	3	1.30	1.70
1	11/2	13/8	.70	.80	6	31/2	4	1.90	2.10
11/2	13/4	15/8	.80	1.00	8	41/4	5	4.30	3.50
2	2	17/8	.90	1.20	10	51/2	7	6.00	5.00

No. 1297 Lunkenheimer Pioneer Oil Cups

Recommended for use on stationary bearings. Equipped with needle valve feed control.



No. 1298 Lunkenheimer Royal Oil Cups

Recommended for use on stationary bearing. Equipped with needle valve feed control.

Cap. Oz.	I. P. Thread In.	Height Over All Inches	Fin. Bronze Price Each	•
1/4 5/8	1/8 1/8	31/6 37/8	\$2.50 2.75	
1½ 2½ 2½	1/4 3/8	47/16 5	3.25 3.50	•
5	3/8 3/8 1/	$5\frac{1}{4}$ $5\frac{3}{4}$	4.00	
18 34	1/2 1/2 3/4	73/4 813/16	8.25 15.50	
	0z. 1/4 5/8 1 11/2 21/2 4 5 10 18	Cap. Thread In. 1/8 1/8 1/8 1/4 1/4 1/4 1/4 1/4 21/2 3/8 4 5 3/8 10 1/2 1/8 1/2 1/8	Cap. Thread Over All In. Inches 14 18 37/8 1 4 4 3/6 11/2 14 4 7/6 21/2 3/8 5 5 4 5 5/4 5 5/8 10 1/2 63/4 18 1/2 73/4	Cap. Thread Over All Price Each 1. P. Height Price Each 1. Cap. Thread Over All Inches Each 1. Cap. Thread Over All Price Each 2. Cap. Thread Over All Price Each 3. Cap. Thread Over All Price Each 2. Cap. Thread Over All Price Each 3. Cap. Thread Over All Price Each 3. Cap. Thread Over All Price Each 4. Cap. Thread Over All Price Each 2. Cap. Thread Over All Price Each 3. Cap. Thread Over All Price Each 4. Cap. Thread Over All Price Each 5. Cap. Thread Over All Price Each 6. Cap. Thread Over All Price Each 6. Cap. Thread Over All Price Each 6. Cap. Thread Over All Price Each 7. Cap. Thread Over All Price Each 8. Cap. Thread Over All Price Each 8. Cap. Thread Over All Price Each 9. Cap.



No. 1299 Lunkenheimer Cardinal Oil Cups

With Snap Lever Feed Control Cast Bronze Base and Top

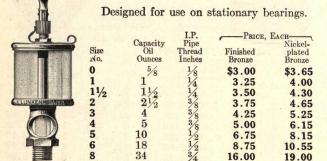
Designed for use on stationary bearings.

Size No.	Cap. Oz.	I. P. Thread In.	Height Over All Inches	Fin. Bronze Price Each
0 1 1½	$\frac{5}{8}$ $\frac{1}{1\frac{1}{2}}$	1/8 1/4 1/4	$ \begin{array}{r} 3^{15}_{16} \\ 4^{1}_{4} \\ 4^{5}_{8} \end{array} $	\$2.50 2.75 3.00
2	2½	3/8	5 $ 53/8 $ $ 61/6$	3.25
3	4	3/8		3.75
4	5	3/8		4.25
5	10	1/2	7 81/16 91/4	6.00
6	18	1/2		8.00
8	34	3/4		15.00



No. 1300 Lunkenheimer Sentinel Oil Cups

With Snap Lever Feed Control



Lunkenheimer Bronze Plain Oil Cups With or without Wick Tube









No. 540 Small Base

No. 541 Large Base

No. 542 with Lever Handle Cock

No. 915 Elbow

These cups are not furnished with internal tube for wick unless so specified. Prices with tube do not include wicking. Wicking is omitted as users usually find it convenient to provide wicks of wool, cotton, or other material best suited to the service requirements.

	FINISHED—PRICE, EACH					H			
Size	Cap.	I. P. Thread	O. D. Body	No. 540 Small	No. 541 Large	No. 542 with Lever Handle	No. 915 Elbow	*Wick	FOR Nickel-
No.	Oz.	In.	In.	Base	Base	Cock	Shank	Tube Each	plating Each
00	1/10 2/10		11/16 13/16	\$.25 .30	\$.30 .35	\$.85 .90	\$.55 .65	\$.10 .10	\$.10 .10
1 2	3/10 5/10	1/8	11/16	.35	.40	1.00	. 75 . 85	.10	.10
3	8/10	1/4	11/4	.60	.75	1.60	1.00	.15	. 10
4 5	$\frac{1\frac{1}{4}}{1\frac{3}{4}}$	3/8	$\frac{1\frac{1}{2}}{1\frac{5}{8}}$.90 1.25	1.00	2.20	1.40	.15	. 15 . 15
6	$2\frac{1}{2}$	3/8	113/16	1.60		3.00	• • • • •	.15	.15
7 8	$\frac{3\frac{1}{2}}{4\frac{1}{2}}$	$\frac{1}{2}$ $\frac{1}{2}$	2 23/16	1.75	• • • • •	3.25		.15	.20
9	$6\frac{1}{2}$	1/2	27/16	2.75				.20	.20
*17	on Mo	a 540	and	541					

*For Nos. 540 and 541 only.

Lunkenheimer Bronze Hinge Lid Oil Cups

With or Without Wick Tube



These cups are not furnished with internal tube for wick unless specified with tube.

Prices on cups with tube do not include wicking. Wicking is omitted as users usually find it convenient to provide wicks of wool, cotton, or other material best suited to the service requirements.

Size No.	Cap.	I. P. Thread Inches	FINIS No. 538 Small Base	No. 539 Large Base	No. 971 Elbow Shank	Add for Wick Tube Each
1 2 3	\$\frac{3}{10} \$\frac{5}{10} \$\frac{8}{10}\$	1/8 1/4 1/4	\$.70 .85 1.20	\$.70 .85 1.20	\$.85 1.15 1.60	\$.10 .10 .15
4 5 6 7	$1\frac{1}{4}$ $1\frac{3}{4}$ $2\frac{1}{2}$ $3\frac{1}{2}$	3/8 3/8 3/8 1/2	1.60 2.10 2.50 2.70	1.60	2.10	.15 .15 .15

No. 591 Lunkenheimer Bronze Champion Oil Cups



Has glass sides and enclosed needle valve feed control.

Used for engine crank pins and other bearings having a rotary

Size No. 1	Cap. Oz. 11/4 21/2	I. P. Thread Inches	Price Each Fin. Bronze \$1.40 2.00
3	5	1/2	2.60
3½	8	1/2	3.50

No. 537 Lunkenheimer Pulley Oilers



The feed is regulated by the screw in the shank.

Shanks on sizes Nos. 0, 1 and 2 are regularly provided with a tapered thread (3-inch o.d. at point, 16 threads to the inch), to permit a tight fit into a $\frac{3}{8}$ -inch bolt hole. Shanks on sizes Nos. 3 and 4 have ¼-inch male pipe thread.

Size In.	Cap. Oz.	Rough Price Each	Size In.	Cap. Oz.	Rough Price Each
0	1/4	\$.25	3	11/4	\$.50
1	1/2	.30	4	134	.65
2	3/4	.40			

No. 613 Lunkenheimer Steel Body Needle Valve Priming Cups

Brass Stem, Hexagon Top, Lever Handle



These cups have seats of the direct compression needle type.

The brass rod stems are of proper diameter and are supported by long threaded bearings.

The cup capacity is not stinted.

The ports are direct and easily cleaned

Pipe Thread Inches	Center to End of Lever Handle Inches	Height Over All Inches	Price Each
1/8	7/8	17/8	\$ 60

No. 820 Lunkenheimer Bronze Combined Priming Cup and Relief Cock Lever Handle, for Gasoline Engines



Size No.	Pipe Thread Inches	Price Each	Size No.	Pipe Thread Inches	Price Each
00	1/8	\$.75	2	1/4	\$1.10
0	1/8	.85	3	14	1.40
1	1/8	.95	4	3/8	1.65

No. 533 Lunkenheimer Shaft Oilers

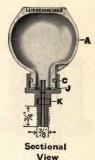
For use on shaft bearings. Feed is regulated by means of screw in shank.



The shank is threaded 3/8-inch on end, 16 threads to the inch. Thread is slightly tapered, enabling same to be tightly screwed into $\frac{3}{6}$ -inch bolt hole.

Made of finished brass

0	made of imistica brass.					
4				Height		
m/==			O.D.	Over		
3/"	Size	Cap.	Glass	All	Price	
→ ←/8	No.	Oz.	In.	In.	Each	
xterior	1	1	13/4	31/2	\$1.70	
View	2	2	2	313/16	1.70	
	3	4	$2\frac{1}{2}$	43/8	1.70	



No. 534 Lunkenheimer Shaft Oilers With Loose Wire and Wood Plug

For use on shaft bearings. It is provided with a tapered wood shank which can be wedged in a %-inch bolt hole and permits of rapid attaching or removal for filling.

The loose wire which extends below and up through the wood shank, rests upon the shaft which when revolving causes the

wire	e to vibra	te and cr	eate a flov	v of oil.
Size No.	Capacity Ounces	O. D. Glass Inches	Ht. Over All Inches	Fin. Price, Each
1 2 3	$\begin{array}{c}1\\2\\4\end{array}$	$\frac{13/4}{2}$ $\frac{21/2}{2}$	$ \begin{array}{c} 3\frac{1}{2} \\ 3\frac{13}{16} \\ 4\frac{3}{8} \end{array} $	\$1.60 1.60 1.60



Lunkenheimer Bottle or Shaft Oilers Straight Blank Shank Loose Wire Feed







No. 1584, Globe Body **Exterior View** Sectional View

Exterior View

No. 1585 is a flat side body oiler and is convenient where space does not permit the use of the full globe body.

Nos. 1584 and 1585 have a blank metal shank .330 inch in

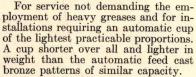
diameter, 7/8 inch long, which slips into bearing oil hole. Should the oil hole in the bearing be too large, it may be tapped to receive a ¼-inch standard pipe size nipple, the inside diameter of which is of correct size to receive oiler shank.

Large oil holes may also be filled with lead or babbitt metal, or where bearings are provided with a grease pocket, a wooden block may be driven into the pocket and drilled 1/32-inch diameter for receiving shank of oiler.

No	1584	1585
Sizenumber	3	3
Capacity (Oil) ounces	4	4
Diameter Globe Bodyinches	21/2	
Radius, Flat Side " " Center to Flat Side . "	-/2	15/16
Center to Flat Side		3/4
Height, Bottom of Shank to Top of Glass		/4
·····inches	4	41/8
Priceeach	\$1.50	1.50

No. 511 Lunkenheimer Brass Jewel **Grease Cups**





		I.		*Height	PRICE.	EACH
Siz	e Car	o. Thre	ad O. D.	Over All	Fin.	N. P.
No	o. Oz			In.	Bronze	Bronze
00) 1	3 1/3	8 13/8	3	\$.80	\$1.00
0	1	1/2	134	39/6	1.00	1.30
1	13	2 1/2	21/6	41/6	1.30	1.70
2	3	3/	8 21/2	51/4	1.70	2.20
3	6	1/	31/8	69/6	2.30	2.90
4	10	1	2 311/6	75/8	3.20	3.90
,	*Plung	ger ra	ised.			

No. 512 Lunkenheimer Marine Screw Feed Grease Cups

Designed more particularly for marine engines. However, it is also found suitable for other purposes where screw feed is desired, or where it is found necessary to force grease some distance to the parts to be lubricated. Thread is on plunger, instead of on stem, lessening leakage around

1			The state of the s		THE RESERVE OF THE PARTY OF	
plu	nger.				PRICE	EACH
Size No.	O.D. In.	Ht. In.	Thd. In.	Cap. Oz.	Fin. Bronze	N. P. Bronze
00	13/8	33/8	1/8	1/3	\$1.00	\$1.20
0	134	45/6	1/4	1	1.20	1.45
1	2	47/8	1/4	11/2	1.60	1.90
2	25/8	515/16	3/8	3	2.00	2.40
3	33/16	71/6	1/2	6	2.80	3.40
4	35/8	81/8	1/2	10	4.00	4.75
5	45/16	10	3/4	18	7.00	8.20
			400			



No. 510 Lunkenheimer Ideal Automatic Feed Grease Cups



An excellent cup for use on engine crank pins, journals, etc. It is provided with a leather packed plunger which is easily raised when cup requires recharging with grease. Spring and plunger are controlled by a thumb nut, which has an automatic lock arrangement

aut	Oma on	TOOK	arran	gemen	U.	
Size No.	O.D. In.	Ht. In.	Thd.	Cap.	Price Fin.	N. P.
00	13/8	31/4	1/8	1/3	\$1.50	\$1.75
0	13/4	43/8	1/4	1	2.00	2.25
1	2	415/16	1/4	11/2	2.50	2.80
2	25/8	61/16	3/8	3	3.20	3.60
3	33/16	73/16	1/2	6	4.30	5.00
4	$3\frac{5}{8}$	85/16	1/2	10	6.00	6.75
5	45/16	101/8	3/1	18	12.50	13.80

No. 669 Lunkenheimer Apollo Iron **Grease Cups Automatic Feed**

For service where the finish of the article is unimportant, such as on shaft bearings, pulleys, etc. It will feed in any position. The threaded shank consists of an extra heavy renewable pipe nipple inserted in base of cup.

Size No.	Cap.	I. P. Thread In.	Ht. In.	Price Each
00	1/3	1/8	33/4	\$1.30
0	11%	1/4	49 ₁₆	1.40 1.50
2 3	3	3/8	65/16	1.70
3 4	6 10	1/2	73/4 87/8	2.30 3.20





No. 24 Lunkenheimer Guard Brass Ratchet-lock **Grease Cups**

Cap Screw Feed

Recommended for service where a cup with a pressed brass cap is desired.

Size No.	Cap.	I. P. Thread In.	O. D. In.	Ht. In.	PRICE, Fin. Brass	EACH N. P. Brass
000 00 0	1/8 1/2 2/3	1/8 1/8 1/4	15/6 $13/6$ $11/2$	$ \begin{array}{c} 21_{16} \\ 25_{16} \\ 29_{16} \end{array} $	\$.45 .55	\$.60 .70 .85
1 2	1 2	1/4 3/8	1 ¹¹ / ₁₆ 2 ¹ / ₄	2 ¹³ / ₁₆ 3 ³ / ₁₆	.85	1.05



No. 556 Lunkenheimer Gem Brass Plain Base Grease Cups

Cap Screw Feed

Designed for service where an exceptionally well-made brass grease cup of plain design is demanded; it is recom-mended for any installation where bearings are not subject to unusual vibration.

2577 9 7		I. P.			, EACH
Size	Cap.	Thread In.	Ht In.	Rough	Finished
No.	UZ.	111.	In.	Brass	Brass
900	1/8	1/8	13/8		\$.50
00	1/2	1/8	11/2	\$.56	. 70
0	2/3	1/4	113/16	.74	. 90
1	1	1/4	21/16	.96	1.15
2	2	3/8	25/16	1.28	1.50
3	$3\frac{1}{2}$	1/2	23/4		2.15
4	5	1/2	3		3.30

No. 513 Lunkenheimer Tiger Bronze Packed

Base Grease Cups

Cap Screw Feed

A simple, compact, efficient cup of the plain compression type. The base construction includes a renewable leather washer, which insures an effective seal against leakage around the threads, even when feeding the lighter grades of



		I. P.				PRICE, EACH	
Size No.	Cap.	Thread In.	O. D. In.	Ht. In.	Rough Bronze	Fin. Bronze	N. P. Bronze
000	1/8	1/8	7/8	17/16		\$.50	\$.60
00	1/2	1/8	11/8	11/2	\$.56	.70	.82
0	2/3	1/4	11/2	13/4	.74	.90	1.06
1	1	1/4	15/8	115/16	.96	1.15	1.36
2	2	3/8	21/8	$2\frac{3}{16}$	1.28	1.50	1.80
3	$3\frac{1}{2}$	1/2	211/16	21/2	1.76	2.15	2.60
4	5	1/2	31/8	$2\frac{3}{4}$	3.20	3.30	3.40

No. 1119 Lunkenheimer Dextro Pressed Steel Spring Lock Grease Cups

Cap Screw Feed



Equipped with an internal locking spring—a simple, though effective means of guarding against the effect of vibration, which tends to unscrew the cap.

No.	I. P. Thread Inches	Capacity Grease Ounces	Plain Finished Price Each
000	1/8	1/8	\$.55
00	1/8	1/2	. 65
0	1/4	$\frac{2}{3}$.85
1	1/4	1	.95
2	3/8	2	1.10

No. 1089 Lunkenheimer Ferro Pressed Steel Plain Base Grease Cups

Cap Screw Feed

The shank is machined from a solid steel bar and the method has been adopted to not only avoid the deficiencies and inaccuracies of less costly processes but to obtain the strength anticipated in steel construction and to also insure correct service

results



34				Fin-
Cap.	I. P. Thread In.	0. D. In.	Ht. In.	ished Price Each
1/8	1/8	7/8	176	\$.40
1/2	1/8	11/8	19/6	.45
2/3	1/4	17/6	115/16	.60
1	1/4	15/8	21/6	.70
2	3/8	23/6		. 85
31/2	17	25/8	3	1.20
5	1/2	31/8	31/4	1.80
	0z. 1/8 1/2 2/3 1 2 31/2	Cap. Thread Oz. In. 1/8 1/8 1/8 1/4 1 1/4 2 3/8 31/2 1/2	Cap. Thread O. D. In. In. In. In. In. In. In. In. In. In	Cap. Thread O. D. Ht. In. 1/8 1/8 7/8 17/6 1/2 1/8 11/8 19/6 2/3 1/4 17/6 11/6 1 1/4 15/8 21/6 2 3/8 23/6 25/6 31/2 1/2 25/8 3

No 1090 Lunkenheimer Securo Pressed Steel Spring Lock Grease Cups

Cap Screw Feed

Equipped with an internal locking spring-a simple, though effective means for guarding against the effect of vibration, which tends to unscrew the cap.

Size No.	Cap.	I. P. Thread In.	O. D. In.	Ht. In.	Fin- ished Price Each
000 00 0	1/8 1/2 2/3	1/8 1/8 1/4	7/8 11/8 17/6	$1\frac{7}{16}$ $1\frac{9}{16}$ $1\frac{15}{16}$	\$.45 .55 .75
1 2	$\frac{1}{2}$	1/4 3/8	15/8 23/16	$\frac{2\frac{1}{16}}{2\frac{5}{16}}$.85 1.00



Copper-plated Steel Engineers' Sets

With Round Tray



Price	e includes tray.	Price
No.	in Set	per Set
C30	5	\$5.00
C40	6	7.00
Sto	amhoat Sate w	rith

Round Tray Steamboat sets are equipped with double bottomed trays, which contain recesses for holding the oilers in place, in the event of rough weather.

No. Pieces in Set Price per Set C70 \$6.00 C80 6 9.00

Engineers' Fillers

Copper-plated Steel



These engineers' fillers are made of extra heavy stock and are handsomely finished.

They are made in either copper-plated steel or brass. The steel fillers are heavily copper-plated both inside and out.

No.	Capacity Pints	Diam. Inches	Price per Doz.
19	1	41/4	\$14.00
19A	$1\frac{1}{2}$	51/4	17.00
210	2	$5\frac{1}{2}$	20.00
211	4	65/16	24.00

Copperized Steel Bench Oilers

Made from 20-gauge cold-rolled steel with high-grade clock spring steel bottoms. Heavy electro copper-plated inside and out. Filler opening, 11/2 inches in diameter.

mora	c and	out.		Price	81 -/2		ii didi	110001	Price
No.	Cap. Pints	Diam. In.	Spout In.	per Dozen	No.	Cap. Pints	Diam. In.	Spout In.	per Dozen
12	1/4	23/4	21/2	\$4.50	14AA	1/2	33/4	5	\$8.50
13	1/3	33/8	3	5.50	14B	1/2	33/4	9	8.50
13A	1/3	33/8	5	6.00	15	1	41/4	3	9.25
14	1/3	33/8	9	6.50	15A	1	41/4	5	9.75
14A	1/2	33/4	3	7.50	16	1	41/4	9	10.50
A 11	• 1		1 0	11 7	• 1 1	1 01	1 1 1	0:	1

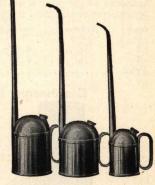
All oilers can be fitted with spouts $2\frac{1}{2}$ to 18 inches in length. Spouts 9 inches and longer are curved. These spouts are interchangeable and will fit other styles of oilers.

Engineers' Drip Oilers

Made from steel having a bright tin or copperized finish. The spout being on the side of the oiler permits of all the oil being poured from the oiler while in a horizontal position.

	Cap.	Diam.	Spout	Price
No.	Pints	In.	In.	per Doz.
61	1	3	12	\$3.75
71	11/2	4	14	4.25
81	2	4	16	4.75
	Co	pperi	zed	
	Cap.		Spout	
No.	Pints	In.	In.	per Doz.

	Cap.	Diam.	Spout	Price per Doz.
No.	Pints	In.	In.	per Doz.
65	1	3	12	\$6.25
75	11/2	4	14	7.25
85	2	4	16	8.00



Copper-plated Steel Railroad Oilers

Copper-plated Steel

These oilers are drawn seamless in two parts from 20-gauge cold-rolled steel.

No.	Capacity Quarts	Diameter Inches	Spout Inches	Price per Doz.
10	1/2	33/8	12	\$14.00
11	1	41/8	18	18.00
*100	1/2	33/8	9	14.00
*101	1	41/8	12	18.00
*111	2	5	10 or 14	20.00

*Have spouts 1½ inches diameter at base.

Gem Steel Oiler Spouts



Cloth Insertion Rubber Sheet Packing



Recommended for use with water which is cold or merely warm at pressures up to 300 pounds per square inch or for air which is practically free from oil at pressures up to 100 pounds and for low pressure steam.

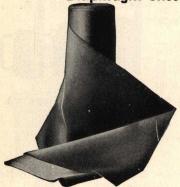
Made in two grades, with cloth insertion, cloth one side or cloth both sides.

Mar Special		No. of PL	TES-		N	o. of PLII	es
Thick- ness In.	Cloth Inserted	Cloth One Side	Cloth Both Sides	Thick- ness	Cloth	Cloth	Cloth
	1	2	2	In. 3/16	Inserted 3	Side 3	Sides 4
1/16 3/32 1/8	1 2	2 3	2 3	1/4	4	4	5
78	4	0	0				

The cloth whether used as an insertion, or on the outside, counts as one ply. Standard width 36 to 40 inches, and standard weight per roll is 175 to 250 pounds. Approximate weights per square yard are as follows:

Grade	Thickness	WEIGI	HT, POUNDS, PER SQUA	RE YARD-
No.	Inches	C. I.	C.O.S.	C.B.S.
1	1/16	4.875	4.875	5.125
2	1/16	4.75	4.75	5.
Price			ner por	ind

Diaphragm Sheet Packing



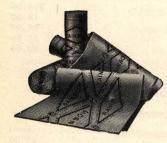
Made of a superior quality of rubber, with a special woven heavy duck insertion, duck one side, or duck both sides, any thickness desired.

Made with a high quality of friction between plies.

To be used for steam. water and damper regulators.

Price per pound \$2.00

U. S. Rainbow Sheet Packing



Will pack an air, steam, hot or cold water joint equally well and will not blow out under high pressure or temperature. It is a nonconductor. Particularly adapted to packing expansion or steam joints, as it does not burn or char.

It will make a tight joint however rough the surfaces to which it is applied may be. Furnished in standard rolls

36 inches wide, $\frac{1}{32}$ to $\frac{1}{4}$ inch in thickness, and weighing approximately 100 and 200 pounds.

Tenax Sheet Packing

The Original Blue Sheet Tough, compressed asbestos fibre sheet. Will stand a temperature of 1600° F. and a pressure of 6000 pounds. It is a packing that will,

without giving out or thinning down, stand up under a gas engine exhaust, cylinder explo-sions, acid, alkali ammonia and oils.

Comes in blue or black graphited. Size sheets, 50x50 inches. Can also be furnished in sizes

25x25 and 25x50 in. if desired. $\frac{3}{12}$ $\frac{1}{16}$ $\frac{3}{32}$ $\frac{1}{18}$ $\frac{*1}{64}$ $\frac{1}{12}$ $\frac{91}{2}$ $\frac{121}{2}$ $\frac{18}{2}$ s, Sheet ...inches pounds $4\frac{1}{\sqrt{2}}$ $\frac{1}{\sqrt{6}}$ $\frac{3}{32}$ $\frac{1}{\sqrt{8}}$ $\frac{1}{\sqrt{6}}$ $\frac{3}{32}$ $\frac{1}{\sqrt{8}}$ $\frac{1}{\sqrt{6}}$ $\frac{1}{\sqrt$ Thickness, Sheet ... inches Weight.....pounds *Furnished in black graphited only.

Paimetto Twist Packing





Any size valve can be packed from one spool, by unstranding, as each single strand is a perfect packing in itself.

Size In.	No. Feet	Price per Lb.	Size In.	No. Feet	Price per Lb.	Size In.	No. Feet	Price per Lb.
1/8 3/16 1/4	120	\$2.00	5/16	23	\$2.00	1/2	8	\$2.00
3/16	75	2.00	3/8	14	2.00			
1/4	50	2.00	3/8 7/16	10	2.00			

Palmetto Braided Packing



Designed especially to meet the exacting conditions of superheated steam, air and ammonia. It is made of a material that cannot char or burn and owing to its peculiar method of lubrication it does not get hard in service.

Each box contains about five pounds braided round or square—in sizes \$\frac{14}{4}\$, \$\frac{5}{6}\$, \$\frac{3}{8}\$, \$\frac{16}{6}\$, \$\frac{12}{9}\$, \$\frac{5}{8}\$, \$\frac{14}{18}\$, \$\frac{3}{4}\$, \$\frac{1}{9}\$, \$\frac{1}{8}\$, \$\frac{1}{1}\$, \$\frac{1}{8}\$, \$\frac{1}{4}\$, \$\frac{1}{8}\$, \$\frac{1}{4}\$, \$\frac{1}{8}\$, \$\frac{1}{4}\$, \$\frac{1}\$, \$\frac{1}{4}\$, \$\frac{1}{4}\$, \$\frac{1}{4}\$, \$\frac{1}{4}\$,

...... per pound \$2.00



Square Hydraulic Packing

Made of special closely woven duck, with a high grade rubber friction. The duck is laid diagonally instead of at right angles.

For hot and cold water service. Price..... per pound

Square Flax Packing

Made of pure, long fibre flax, possessing great strength. Contains pure lubricants and is without hemp, jute, tow or any gritty substances.

Sizes, 1/4 to 3 inches.

Price per pound



Skookum Cross Expansion Piston Rod Packing



For steam pressures up to 125 lbs.; for oil, air, ammonia, brine and all liquids regardless of temperature or pressure. Skookum retains its square corners and does not roll. Made in sizes, advancing by 16ths from 3/16 to 2 inches square.

.....per pound \$1.25

Rubber Pump Valves

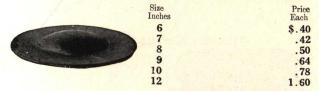


These valves are adaptable to a wide range of conditions which have been investigated for the purpose of ascertaining the correct compound to give the best results.

	Service	For Pressure
Consistency	Intended for	Pounds
Soft	Cold Water	80 to 100
Medium	Semi-hot Water	100 " 250
Hard	Hot Water	125 " 300
In ordering,	state diameter, thickness an	d size of hole

Price upon application.

Low Pressure Rubber Diaphragms



Kearsarge Standard Asbesto-Metallic Boiler Manhole, Handhole and Tube Plate Gaskets



For packing manhole and handhole plates of boilers. Made of Asbesto-Metallic fabric treated with a heat resisting compound and folded into several plies or thicknesses to proper size and shape. Furnished in oval form to fit plates for which they are intended.

The gaskets are so made that an unbroken rounded shoulder comes on the outside of the gasket which is presented to the pressure. The edges of the folds are on the inside of the pressure. The edges of the tolds are on the gasket. May be used over, if properly applied.

Price, No. 116, for Manholes per lb.

" "117 " Handholes "

" "Tybe Plates "

Eclipse Sectional Gaskets



Consists of a tube of Rainbow Compound having a central hole throughout its length into which is inserted a metal connecting tube, the two butted ends being wrapped with a

special tape, thus forming a continuous gasket.

14 and 38-inch for pipe unions, 12-inch for handhole plates,
58 and 34-inch for manhole plates,
78 and 1-inch for extra

large manhole plates. Price.....per pound \$1.25

Flexitallic Gaskets



Flexitallic Gaskets are especially recommended for boiler manholes, handholes, and tube caps for water-tube boilers; also pipe flanges, super-heaters, steam hammers, etc., or any place impossible to hold tight with ordinary gaskets.

Pipe Flange Gaskets

		r lange C	askets	
	I. D. x O. D.	RD——	I. D. x O. D.	LVY
Size of	Diameters		Diameters	
Pipe	Flexitallic	Price	Flexitallic	Price
Inches	Required	Each	Required	Each
1	13/4x 21/2	\$.10	13/4x 25/8	\$.10
11/4	2½x 2½	.12	2½x 3½	.15
11/2	2½x 3¼	.15	23/4x 33/4	.21
172	21/- 27/	.13	21/- 41/	.25
2	3½x 3½		$3\frac{1}{4}$ x $4\frac{1}{4}$	
21/2	4 x 43/4	.24	37/8x 47/8	.30
3	$4\frac{1}{4} \times 5\frac{1}{4}$.29	47/8x 57/8	.35
31/2	$5\frac{1}{4} \times 6\frac{1}{4}$.33	$5\frac{1}{4} \times 6\frac{1}{2}$.40
4	55/8x 65/8	.35	$5\frac{5}{8} \times 6\frac{7}{8}$.45
41/2	55/8x 67/8	.40	55/8 75/8	.60
5	63/8x 75/8	.45	63/8x 83/8	.70
6	7½x 85/8	.60	7¾x 9¾	.90
7	03/11 07/	.75		.95
	83/8x 97/8		87/8×107/8	
8	$9\frac{1}{8}$ x $10\frac{7}{8}$.85	$9\frac{1}{2}$ x11\frac{7}{8}	1.05
9	$10\frac{5}{8}$ x $12\frac{3}{8}$	1.00	105/8x13	1.10
10	$11\frac{1}{4} \times 13\frac{1}{4}$	1.30	$11\frac{3}{4}$ x $14\frac{1}{8}$	1.40
12	14 x16	1.50	$14\frac{1}{4} \times 16\frac{3}{4}$	1.70
14	$15\frac{3}{4}$ x $17\frac{3}{4}$	1.80	$16\frac{1}{2} \times 19$	2.05
15	17 x19	2.20	173/8x197/8	2.45
16	175/8x201/8	2.30	183/8x213/8	3.00
18	19 x21½	2.60	20 ³ / ₈ x23 ³ / ₈	3.48
20	$20\frac{3}{4}$ x $23\frac{3}{4}$	3.48	$22\frac{1}{2}x25\frac{1}{2}$	3.96
22	$22\frac{7}{8} \times 25\frac{7}{8}$	4.08	$24\frac{1}{2}x27\frac{1}{2}$	5.04
24	$25\frac{1}{8}$ x $28\frac{1}{8}$	4.56	27 x30	5.66
26	27 ³ / ₈ x30 ³ / ₈	5.04	$31\frac{1}{8}x34\frac{1}{8}$	7.50
28	295/8x325/8	7.36		
30	$31\frac{1}{2}x34\frac{1}{2}$	8.00		
		1.30 "有五本"		
	Flang	e Union	Gaskets	
1/2	7/8x 13/8	\$.04	13/6x 13/4	\$.05
3/4	1 x 15%	.05	13/6x 13/4	.05
1		.06	13/8x 2	.06
11/	1½x 17/8		13/8x 2	
11/4	1½x 25/16	.07	15/8x 27/6	.07
11/2	$2 \times 2\frac{3}{4}$.10	2 x 23/4	.10
2	$2\frac{1}{2}$ x $3\frac{1}{4}$.15	$2\frac{3}{4}$ x $3\frac{1}{2}$.17
21/2	31/8x 315/16	.20	$3\frac{1}{8}$ x $3\frac{7}{8}$.20
3	35/8x 41/2	.22	35/8x 41/2	.22
31/2	$4\frac{1}{8} \times 5\frac{1}{8}$.26	$4\frac{1}{8} \times 5\frac{1}{8}$.26
4	$4\frac{1}{2}$ x $5\frac{5}{8}$.31	45/8x 53/4	.31
41/2	5½x 63/8	.36	$5\frac{1}{8} \times 6\frac{1}{4}$.36
5	$5\frac{3}{4}$ x 7	.42	$5\frac{3}{4}$ x 7	.42
6	63/w 91/			.53
0	$6\frac{3}{4}$ x $8\frac{1}{8}$.53	63/4x 81/8	
7	$7\frac{7}{8} \times 9\frac{1}{2}$.72	7½x 9	.60
8	$8\frac{7}{8}$ x $10\frac{1}{2}$.78	$8\frac{1}{2}$ x $10\frac{1}{8}$.70
9	$9\frac{3}{4}$ x $11\frac{1}{2}$.89	$10\frac{9}{6}$ x $12\frac{9}{6}$	1.08
10	103/4x123/4	1.10	127/8x147/8	1.32
12	13½x15½	1.32		

2.00 Flange gaskets are made to fit inside bolts. Order by size of pipe and state if for standard or extra heavy fittings.

1.55

 $15\frac{1}{4}$ x $17\frac{3}{8}$ $17\frac{1}{2}$ x $19\frac{3}{4}$

14

Oval Gaskets For Handhole Plates Size Price Price Each Size Inches Inches Each Inches Each \$.30 3 x 4 \$.15 3x5 \$.20 5x7 .25 .50 31/2× 41/2 .20 4x6 6x8 For Manhole Plates \$1.35 \$1.20 10 x15 11x15 \$1.25 12x16

Boiler Tube Cap Gaskets For All Makes of Water-tube Boilers

Always state name of boiler on which gaskets are to be used. Prices upon application.

-12. 88 BE



Asbestos Wick

Style X is a plain asbestos wick, XX is pure asbestos for wire wiping and stem packing. Standard is long fibred, hard twisted for same uses.

Pounds	Price
	per Pound
60	\$.50
80	.75
80	1.00
	per Ft. 60 80

Candle Wick

In Balls

Carefully manufactured of cotton specially selected for the purpose.

For packing small valve stems, etc. Furnished in ½ and ¼-pound balls.

Price.....per pound



Mineral Wool



A mineral substance in fibrous form, used for fire-proofing buildings and deadening sound. Weighs about 12 pounds to the cubic foot, equal to about 34-pound to 1 square foot, 1 inch thick. In bags weighing about 60 pounds each.

Prices upon application.

Cotton and Wool Waste



Less than 50-pound bale takes 2 cents per pound advance over 100-pound bale.

Fifty-pound bale takes ½ cent per pound advance over 100-pound bale.

Price	, No. 1, W	White C	Cotton V	Vaste			. per pound	
"	" 2		**	"			"	
"	Machine	d Cop	Waste .	Television (Control	•	•	"	
"	No. 1, C	olored	Cotton	Waste	• • •	• •		
"	" 2	"	"	"			"	
"	" 3	"	"	"			"	
"	Wool Wa	ste					u	

Asbestos Lead Joint Runners



Made of specially prepared pure asbestos rope, having a ferrule on each end, and provided with clamping device for fastening in place on the pipe.

Size No.	Size, Rope Inches	For Pipe Inches	Price Each
1	3/4 3/4	2, 3 and 4	\$2.15
2	3/4	4, 5 " 6	2.35
3	1	6, 8 " 10	4.15
4	1	10, 12 " 14	5.40
5	11/4	16, 18 " 20	11.00
6	11/4	24	12.25
7	11/4	30	13.95
8	11/4	36	15.75
9	11/4	42	17.65
10	11/4	48	18.80

Asbestos Sheet Mill Board



					ordere
Thick-	Lbs. per	Price	Thick-	Lbs. per	Price
ness	Sheet	per	ness	Sheet	per
In.	40x40 In.	Sheet	In.	40x40 In.	Sheet
1/32	2.4		3/32	5.5	
3/64 1/16	2.75		1/8	7	
/16	3.65		3/16	10	

Especially adapted for fireproof lining of floors, partitions, etc. Also for packings, fire screens, linings for ranges, stoves, grates, gas backs, etc.

Sheets come in sizes 40x40 inches, or 42x44 inches. Made in hard, m e d i u m and s o f t grades. Medium furnished unless otherwise

order	ed.						
Price	Thick-	Lbs. per		P	ri	ce	
per	ness	Sheet		T)e	r	
Sheet	In.	40x40 In.	1	SÎ	ne	et	
	1/4	14					
	3/8	20					
	1/2	25			٠,		

Asbestocel Board

Made in $\frac{1}{2}$, $\frac{3}{4}$, 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{3}{4}$, 2 and 2 $\frac{1}{4}$ inch thickness. In sheets, 36x36 inches and blocks 6x36 inches.

Prices upon applica-



Asbestos Corrugated Paper



Generally used for insulating hot air heater or furnace pipes, etc. Furnished in rolls 37½ inches wide containing approximately 250 square feet.

Thickness, ¼ inch.
Prices upon application.

Asbestos Paper

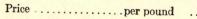
An excellent fire-resisting sheathing material, extensively used for the protection of wood partitions, walls, ceilings and in all kinds of building construction.

Also used for lining weather boards, floors, etc., being especially desirable for such purposes as it is practically indestructible and is absolutely verminproof.

Thick- ness Inch	Wt., Lbs. per 100 Sq. Ft.	Price per Pound	Thick- ness Inch	Wt., Lbs. per 100 Sq. Ft.	Price per Pound	Thick- ness Inch	Wt., Lbs. per 100 Sq. Ft.	Price per Pound
.015	6		.025	12		1/16	35	
.018	8		.028	14		3/32	53	
.020	10		1/32	16		1/8	68	

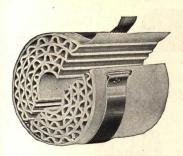
Asbestos Cement

Made of asbestos fibre and binding materials that have high insulating values. It is easy to mix and apply, and readily adheres to hot surfaces. It finishes with a hard durable and attractive surface, and does not crack, break or peel off. Packed m 100-pound bags.





Asbestos Aircell Pipe Covering



This pipe covering is the standard for low pressure steam and hot water

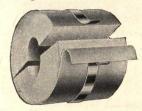
pipes.
It is made up of alternate layers of plain and corrugated asbestos paper. Sal-Mo asbestos paper is used in the manufacturing of this covering.

Pipe covering is firm and uniform in section. It is light, fire-proof and durable.

Made in sections 3 feet long. Thickness ½, ¾ and 1 inch. Finished with canvas jacket and brass lacquered metal bands. Made to fit all standard pipe sizes.

Sold from regular sectional pipe covering lists.

85% Magnesia Pipe Covering



For high pressure steam lines boiler and locomotive lagging. Carbonate of magnesia is fire-proof and a non-conductor of heat. Asbestos fiber is light and almost indestructible; it also has a high heat insulation value.

Made in sections 3 feet long. Standard thickness, 1 inch. Finished with canvas jacket and brass lacquered metal bands. Made to fit all standard pipe sizes.

Sold from regular sectional pipe covering lists.

List Prices for Sectional Pipe Insulation Standard Thickness with Brass Lacquered Bands

These pipe insulations are supplied in sections 3 feet long, canvassed and with brass-lacquered bands.

Size	Price	Size	Price
Pipe	per	Pipe	per
Inches	Foot	Inches	Foot
1/2	\$.22	6	\$.80
1/2 3/4	.24	7	1.00
1 14	.27	8	1.10
11/4	.30	9	1.20
11/4 11/2 2 21/2 3 31/2	.33	10	1.30
2/4	.36	12	1.85
21/2	.40	14	2.10
3 /2	.45	16	2.35
31/2	.50	18	2.60
4	.60	20	2.85
41/4	.65	24	3.30
4 ¹ / ₂ 5	.70	30	4.00

Johns-Manville Fireite Asbestos **Furnace Cement**

A general cement recommended to householders for use on their heating plants. It is prepared ready for use, adheres

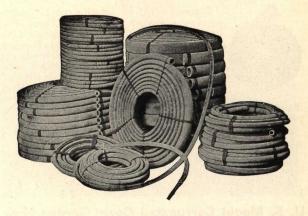
readily and firmly to castings and tin and sets in a few hours after application. For setting up and repairing broken joints in furnaces and heaters. For stopping holes in flues.

No in

dohns Manyille Inc.	Johns Manville Inc.		
Johns Manville Inc.	Johns Manville Inc.	5 Politic	Setweight
Johns Manville Inc.	Johns Manville Inc.	Transit 5 pounds	Setweight
Johns Manville Inc.	Johns Manville Inc.		
New York City	Now York City	Colombia Interactions	
New York City	Now York City	W - Inc	A
Branches in all turde Cities	Evenches in 62 Large Cities		
		in 62 Large Cities	Lanches

Quantity	Case	per Lb.
1-pound Cans	100	\$.18
2-pound Cans	50	.17
5-pound Cans	24	.14
10-pound Cans	18	.14
25-pound Cans		.14
50-pound Cans		.135
100 and 200-pound Drums		.11
450 and 800-pound Drums		.10

Water Hose



Two-ply hose, designed to conduct water under moderate pressure only. Sizes above 3-inch are mainly for tank hose; 3-ply hose, of medium strength, suitable for hydrants, garden and pump uses, street sprinkling, washing decks, etc.

Four-ply hose, recommended for all purposes where a particularly strong and reliable article is required.

Five and 6-ply hose, for use where great resistance to pressure or very severe service is required.

Allamina]	PRICE, PER FOO	r	
Internal Diam. In.	2	3	No. of PLIES-	5	6
			\$.30	\$.37	\$.45
1/2 3/4	\$.20	\$.25			.55
3/4	.25	.30	.37	.46	
1	.33	.40	.50	.62	.75
11/4	.42	.50	.62	.77	.93
11/2	.50	.60	.75	.93	1.12
13/4	.58	.70	.87	1.08	1.30
2	.66	.80	1.00	1.25	1.50
21/4	.75	.90	1.12	1.40	1.68
21/2	.83	1.00	1.25	1.56	1.87
$\frac{2^{1/2}}{2^{3/4}}$.92	1.10	1.37	1.71	2.05
3	.99	1.20	1.50	1.87	2.25
31/2	1.16	1.40	1.75	2.18	2.62
	1.32	1.60	2.00	2.50	3.00
5	1.65	2.00	2.50	3.13	3.75
4 5 6	1.98	2.40	3.00	3.75	4.50
7	2.31	2.80	3.50	4.38	5.25
8	2.64	3.20	4.00	5.00	6.00
9	2.97	3.60	4.50	5.63	6.75
10	3.33	4.00	5.00	6.25	7.50

All intermediate sizes charged at the list price of the next larger size, thus: 11/8-inch is charged at 11/4-inch price, etc. Furnished regularly in 25 and 50-foot lengths.

Steam Hose

Internal		PRICE, DER FOOT— No. of PLIES—							
Diam. In.	3	4	5	6	7	8			
1/2	\$.47	\$.56	\$.70	\$.84	\$.98	\$1.12			
1/2 3/4	.57	.71	.87	1.05	1.23	1.41			
1	.70	.87	1.07	1.28	1.50	1.70			
11/4	.85	1.04	1.30	1.56	1.82	2.08			
11/2	1.02	1.25	1.56	1.87	2.18	2.50			
13/4	1.18	1.45	1.81	2.17	2.53	2.90			
2	1.34	1.66	2.07	2.49	2.90	3.32			
21/4	1.50	1.87	2.33	2.80	3.27	3.74			
21/2	1.66	2.08	2.60	3.12	3.64	4.16			

When ordering, state steam pressure used.

Note.—The list on steam hose applies to brewer's, air brake car heating and air drill hose also.

Unlined Linen Fire Hose



Recommended for interior use in preference to a rubber lined cotton hose. The linen hose has no lining to deteriorate with age and will last a great deal longer. Its chief value is for short lines for brief use inside the building. On account of its lightness, compactness and convenience, it can be handled by one man alone. When water is first turned on, the hose will leak slightly, but the

fibers will almost immediately expand and the hose becomes practically water-tight.

Couplings are not included in price and must be specified when wanted.

Size Inches	Price per Foot	Size Inches	Price per Foot	Size Inches	Price per Foot
3/4	\$.25 .30	1½ 1½	\$.35	2	\$.54
	.30	11/2	.42	21/2	.66

U. S. Mogul Corrugated Cover Garden Hose



Braided and Moulded Construction

A flexible hose which will not kink. Capable of withstanding the heaviest pressures. A high quality rubber tube and a tough rubber cover insure the utmost in resistance to rough handling. Furnished in continuous length coils approximately 500 feet.

Size In.	Working Pressure Pounds	Price per Foot	Size Inches	Working Pressure Pounds	Price
3/8 1/2	150	\$.20		125	Foot \$.28
1/2	125	.25	5/8 3/4	125	30

Brass Hose Clamps



Made of heavy wrought brass, this clamp is rust-proof clear through.

Tongue runs in channel holding it close to hose and making a uniform grip.

Band portion is pliable, grips tight, and can be opened up, removed and used

Stiff ears cannot pull together at top when tightened, and also form a perfect nut lock.

Heavy shoulder engages vise jaws, permitting clamp to be pulled tremendously tight.

For Water Hose

Commi		Inside		Wt. Lbs.	Price			Inside	Gross	Wt.	Price
DIZE .	HOS	E Diam		per	per	SIZE	Hose	Diam.	in	per	per
In.	Ply	In.	Box	Gross	Doz.	In.	Ply	In.	Box	Gross	Doz.
3/16	3	7/16	1	21/4		1	2	111/32	1/2	17	\$2.00
14 3/8/8/2 1/2/2/8/8/8/4 3/4	3	1/2 5/8 13/16	1	4		1	3	17/6	1/2	18	2.00
3/6	2	5%	1	41/4		1		117/			
20	5	19/		474			4	117/32	1/3	20	2.00
78	0	216	1	43/4		11/4	3	121/32	1/3	21	2.50
1/2	2 3 2 3	1/8	1	51/4		11/4	4	113/16	1/3	23	2.50
1/6	3	15/16	1	534	1000	11/2	4 3	1 15	13		
12		11/	1	014		1/2		1 15/16	1/4	30	3.00
72	4	11/32	1	61/2		11/2	4	21/16	1/4	31	3.00
%	3	11/32	1	61/2		2	3, 4	29/16	1/6	38	4.00
5/6	4	13/32	1	634		21/4		07/			
3%	2	13/		074				27/8	1/12	48	6.50
74		13/32	1	63/4		21/2	3, 4	31/16	1/12	50	7.00
%	3	13/16	1	63/4		3	3, 4	315/16	1/12	72	10.00
3/4	4	11/4	1	73/4			-, -	710	/12		10.00
1		-/4		./4							
				Fo	r Ste	am	Hose				
3/4	3	17/6	1/2	18 \$	2.00	11/2	3, 4	$2\frac{7}{32}$	1/	33	es =0
3/4	4	117/32				11/2	0, 1	2/32	1/4		\$3.50
		1 5 32	1/3		2.00	11/2	5	213/32	1/6	35	4.00
1	3	15/8	1/3	21	2.50	2	3, 4	211/16	1/6	38	5.50
1	4	121/32	1/3	21	2.50	2	5	27/8	1/12	50	
11/4	3	115/16	1/4					2/8			6.50
114	1	1 216		-	3.00	21/2	3, 4	31/4	1/12	.50	8.50
11/4	4	131/32	1/4	30	3.00	21/2	. 5	39/16	1/12	66	9.50
						, 4		-/10	112	00	0.00



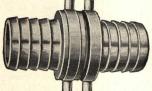
Cast Brass Garden Hose Couplings

Size	Price
Inches	per Dozei
1/2*	\$2.40
3/4*	2.40
1	4 40

*Hose thread furnished unless otherwise ordered.

Water Hose Couplings

				ATT
Size	Price	Size	Price	
In.	per Doz.	In.	per Doz.	
11/4	\$10.00	3	\$75.00	A Line
11/2	14.00	31/2	120.00	VI
2	24.00	4	150.00	-
21/2	48.00			

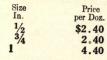


Steam Hose

Couplings Always furnished with iron

Lgth.	Lgth			Lgth.	bib	e inread.
Size Tail Price In. In. per Doz.	Size Tail In. In.	Price per Doz.	In	Tail	Price	Size Tail Price In. In. per Doz. 2½ 5 \$72.00

Wrought Brass Garden Hose Couplings





Male Hose Nipples

Size Inches 1/2 3/4 1	Price per Doz. \$3.50 3.50 5.00	Size Inches 11/2 2 21/2	Price per Doz. \$10.00 14.00 28.00
 11/4	9.00	/	

Male and Female Hose Nipples

Size Inches	Price per Doz.	Size Inches	Price per Doz.
1/2 3/4	\$3.50	11/2	\$10.00
3/4	3.50	2	14.00
1	5.00	21/2	28.00
11/4	9.00		



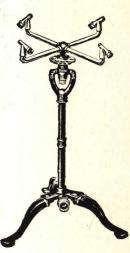
Hose Reducers and Bushings





Size Inches	Price per Doz.	Size Inches	Price per Doz.	Size Inches	Price
3/4x 1/2	\$6.50	11/2×11/4	\$12.00	2½x1½	per Doz \$23.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	6.50	2 x 3/4 2 x1	13.00 14.00	2½x1½	24.00
11/4x 3/4	8.00	2 x11/4	16.00	2½x2 3 x2	26.00 30.00
$\frac{1\frac{1}{4}x1}{1\frac{1}{2}x}$ 3/4	10.00 11.50	$\frac{2}{2^{1/2}} \times \frac{1^{1/2}}{3/4}$	18.00 20.00	3 x21/2	36.00
11/2x1	11.50	21/211	22.00		

Giant Rain King Lawn Sprinklers



There is no wear-out to the Giant Rain King Lawn Sprinkler.

It stands 4 feet high and has 20-inch sprinkler arms.

This sprinkler has 4 nozzles, each adjustable for any spray, direction and volume of water. Sets in a jiffy for revolving or stationary sprinkling.

Revolving, will water a circle up to 75 feet in diameter depending upon the pressure. Quickly set to any number of adjustments.

Fills every sprinkler requirement.

Sprinkler is finished in green enamel with attractive brass fittings.

Packed 1 to a carton.

Weight, 19 pounds.

Price...... each \$12.50



Rain King Lawn Sprinklers

Distributes water at any pressure and any distance up to a 50-ft. circle. Instantly adapted to area to be covered; coarse or fine spray as desired.

Made entirely of brass and cast iron.

Size Base	Height Inches	Weight	Price
Inches	Inches	Pounds	per Doz.
53/4×6	53/4	3	\$42.00

Two-purpose Rain King Lawn Sprinklers



Nothing to get out of order. No leaking at connections. Strong, sturdy and simple in design and construction. As a hose nozzle it gives any desired spray from a fine mist to a powerful compact stream by turning peg. Loosen wing nut and give hose connection quarter turn to change from nozzle to efficient stationary spray.

Adapted to lawns or gardens of any size and operates efficiently under any water pressure.

Packed six in a display carton.

Price.....each \$2.00

Rain King Hose Nozzles

Consists of only 2 parts and a nut and washer. Instantaneous adjustment from a long solid stream to the finest mist



spray with only a quarter turn from one extreme to the other. Packed 1 in a box, 12 boxes to a carton, 12 cartons to a case. Price, Weight, 10 Ounces....each \$1.50

Spray Nozzles

A heavy spray nozzle giving full stream, spray and shut-off. Shut-off is positive, without possibility of a leak.



Price,	3/4-Inch	Brass per dozen N. P	\$9.00
"	3/4 "	N. P	9.80

Thompson Concealed Lawn Sprinkling Systems



Thompson Systems consist of Thompson Sprinkler Heads placed at intervals in the lawn and set even with the top of the ground, but below the level of the grass, these being connected to water pipes underground, and operated from Thompson Control Valves. The systems are laid out in sections, a certain number of heads and one valve to each section. The number of heads to a section and the number of sections that can be satisfactorily operated at a time depend largely upon the size of the water supply line and meter, and upon the available water pressure.

A concealed system in a lawn is virtually hidden from sight, as the sprinkler heads can be seen only upon close inspection. Since the heads do not protrude above the surface of the ground, they in no way interfere with the use of a lawn-mower. These systems meet the requirements of practically any kind and size of lawn, new or old, large or small, level or terraced. Used in parks, cemeteries, school lawns, the grounds of public and semi-public buildings and the like, to the needs of which they are especially well suited.

The Thompson System is always ready for use. A turn of the valve starts the system operating; there is no hose to bother with.

This system, by providing a calculated and controlled means of sprinkling, often cuts water bills in half.



Full-Circle Zinc Brass Lined



Half-Circle Zinc, Brass Lined



Square Zinc, Brass Lined



Full-Circle, All Brass



Half-Circle, All Brass

Thompson Sprinkler Heads are made of zinc with brass nozzle-cores or entirely of brass. Different types throw full-circle, half-circle, quarter-circle or square sprays. Half-circle and quarter heads are used along walks, drives, etc.

Detailed plans for the installations of Thompson Concealed Systems, prepared without charge. With the aid of a Thompson Plan anyone who understands pipe-fitting can easily put in the system.

To obtain a plan, send a sketch giving dimensions of each area to be springled; water pressure; location of meter, and of the water supply line; location of trees, shrubs, gardens, etc. Include any other information that may prove helpful.

Prices and special catalogue upon application.

Style T Wirt's Hump Hose Racks



Made of steel tubing, steel rod and malleable iron.

Designed with a hump in the bottom which takes the weight off the folds in the hose and permits them to lie loose and open. The end or front of the rack is partially enclosed. This basket formation holds the stack of hose in position when drawn off, preventing the stack from sliding out bodily and falling to the floor in a tangled mass, as is frequently the case with the old style end rack.

When ordering hose racks or reels, give size, kind and length of hose, and specify whether wall brackets or pipe clamps are wanted; if the pipe clamps, specify size.

	CAP. Hos					
No.	Unlined Linen	Cotton Rubber- lined Mill	Size of Hose Inches	Height Inches	Length Inches	Jap. Red Price Each
A-0	50		11/4 or 11/2	163/8	251/4	\$8.50
A-OX	50		2	171/8	265/8	8.50
A-00	50		$2\frac{1}{2}$	171/8	265/8	8.50
A-075 A-0X75	75 75		11/4 or 11/2	191/8	$25\frac{1}{4}$	9.35
A-0075	75		2	1934	265/8	9.35
A-1	100	25	2½ 1¼ or 1½	$19\frac{3}{4}$ $21\frac{1}{8}$	265/8	9.35
A-1X	100	25	2	21 3/4	27 283/8	10.20 10.20
A-2	100	25	21/2	2134	283/8	10.20
A-3	150	50	11/4 or 11/2	2834	321/8	11.90
A-3X	150	50	2	283/4	321/8	11.90
A-4 A-5	150	50	21/2	$28\frac{3}{4}$	321/8	11.90
A-5X	200 200	100	11/4 or 11/2	40	38	12.75
A-6	200	100 100	2	40	38	12.75
	200	100	$2\frac{1}{2}$	40	38	13.60

Style V Wirt's Wall Hose Reels

Made of steel tubing, steel rod and malleable iron castings. The tension axles are used so that the reel may be adjusted to run tight or loose as desired.

When ordering hose reels, give size, kind and length of hose, and specify whether wall brackets or pipe clamps are wanted; if the pipe clamps, specify size.

The prices given below cover brackets or pipe clamps up to 4-inch Larger clamps extra.

CAPACITY



	Hose	, FEET				
No.	Unlined Linen	Cotton Rubber- lined Mill	Size of Hose Inches	Height Inches	Length Inches	Vermilion Finish Price Each
0	50		11/4 or 11/2	201/8	183/4	
00	50		2	201/8	183/4	\$10.20
000	50		21/2	203/8	19	10.20
01/2	75		11/4 or 11/2	217/8	201/8	10.20
001/2	75		2	221/8	201/8	10.20
0001/2	75		$2\frac{7}{2}$	$\frac{22}{8}$	201/8	10.20
1	100		11/4 or 11/2	263/8	$\frac{201}{2}$	10.20
21/2	100		2	263/8		10.20
31/2	100		21/2	265/8	23 23	10.20
2	150	50	11/4 or 11/2	313/8		10.20
3	150	50	2	317/8	$\frac{26\frac{1}{4}}{27}$	10.20
4	150	50	21/2	317/8	27	10.20
51/2	200		11/4 or 11/2	263/8		11.05
61/2	200		2	303/4	223/8	11.90
71/2	200		21/2	303/4	247/8	12.75
5	300	100	11/4 or 11/2	32	251/8	13.60
6	300	100	2	355%	261/2	12.75
7	300	100	21/2	257/	297/8	13.60
8	400	150	$\frac{2}{2}\frac{72}{1/2}$	357/8	297/8	14.45
9	600	200	21/2	435/8	321/2	19.55
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	000	200	21/2	471/2	36	25.50

Wirt's Royal Pressed Steel Hose Racks

This rack is semi-automatic; it can be operated by turning on the water before pulling off the hose. Water is held back at the fold of hose nearest to valve and does not come through until hose is all withdrawn. Should a valve be opened maliciously, water will be held back until noticed

Has a covered top which prevents dust from rotting the linen fibres. Pins are rustproof. Hose folds over them in natural bends without pinching.

Ample space between pins prevents
mildew, increasing life of hose. Pins do not fall to floor when

hose is removed but remain hanging ready for hose to be replaced. No strings or cords are necessary to keep hose on rack. Furnished in red finish and with wall bracket if not otherwise specified.

Prices given are for swivel type with iron pipe thread nip-Prices given are for swivel type with iron pipe thread nipples; wall bracket type; and pipe clamp type with pipe clamp not over 4 inches. For larger pipe clamps add: for 4½-inch, 50 cents; 5-inch, 60 cents; 6-inch, 70 cents; 7-inch, \$2.20; 8-inch, \$2.70; 9-inch, \$3.00; 10-inch, \$3.20. For special or hose thread nipples with steel rack 1¼ and 1½-inch, add 80 cents; 2-inch, \$1.10; 2½-inch, \$1.30.

Prices on polished brass racks and nickel-plated brass racks furnished upon application

racks furnished upon application.

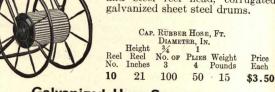
	Capacity Linen	Size	Red Enamel	ICE, EACH-	
[No.	Hose Feet	Hose Inches	Aluminum or Gold Bronze	White Enamel	Nickel- plated
18W	25 to 75	1		\$10.20	\$11.90
18X 18Y	25 " 75 25 " 75	11/4 or 11/2	8.50 8.50	10.20 10.20	11.90
18Z	25 " 75	21/2	8.50	10.20	11.90 11.90
19W 19X	100 " 150 100 " 150	1 11/4 or 11/2	10.20 10.20	11.90	13.60
19Y	100 " 150	2	10.20	11.90 11.90	13.60 13.60
19Z	100 " 150	$2\frac{1}{2}$	10.20	11.90	13.60

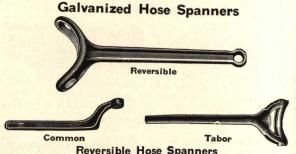
Style B No. 10 Wirt & Knox Tubular All Metal Hose Reels

Frame can be tilted down to the ground and forms a stand in which the reel revolves. There are no exposed spokes to interfere with either operation. This reel cannot tip over when unreeling.

The weight of the hose is borne upon the rims. All metal tubular

steel rims and frame, steel spokes and steel reel head, corrugated galvanized sheet steel drums.





D: ALL T	eversible Hose Sp	panners		7
Price, 21/2-Inch		pe	r dozen	\$7.80
	ommon Hose Sn	anners		41.00
Size	inches	11/2	2	21/2
Price	per dozen	\$4.00	4.50	5.00
	Tabor Hose Snar	nore		
Price, 11/2-Inch		pe	r dozen	\$5.00

Total Eclipse Hydrants

Valve and working parts are of brass. Positive automatic drain closes against the pressure. Sand cup valve protector furnished with each hydrant. Removal of nozzle and top cap permits withdrawal of interior parts for replacement with ease and without digging up or disturbing connection to supply pipe.
Plunger operates up and down

without twisting movement or tor-sional strain. When water is ad-mitted into the valve the drain outlet is completely sealed by cup washer on plunger without waste of water. When the valve is closed after operating, the drain outlet is unsealed or opened, allowing all water in stand-pipe to escape, preventing possibility of freezing.

	Set in Ground	No. 1	Hydrants -Price, Each- -Size, Inches-		
	Feet	3/4	1	11/4	
The Day	11/2	\$9.80	\$12.70	\$19.70	-0.
HALM	2	10.10	13.50	20.50	O PAUL
	3	10.60	14.30	21.80	
	4	11.00	14.75	22.25	ANGES .
	5	11.50	15.30	22.80	
No. 1, Com-	6	12.10	16.00	23.75	No. 7, Self-
Anti-freezing	8	13.50	18.50	27.00	closing Type Anti-freezing
7	10	16.00	21.00	30.00	Anti- Woozing

		No. 7	Hydrants		,
Set in		EACH-	Set in	PRICE,	EACH-
Ground Feet	Size,]	NCHES 1	Ground Feet	Size, 1	NCHES 1
11/2	\$10.80	\$13.70	5	\$12.50	\$16.30
2	11.10	14.50	6	13.10	17.00
3	11.60	15.30	8	14.50	19.50
4	12.00	15.75	10	17.00	22.00

Buffalo Pattern Service Boxes With 21/2-inch Shaft

	Extension	Price
No.	Inches	Each
88	12	\$1.00
89-A	12 to 20	1.25
90-B	18 " 26	1.35
91-C	21 " 33	1.55
92-C	24 " 38	1.65
92-D	24 " 42	1.85
93-D	36 " 48	2.00
93-E	36 " 54	2.15
94-D	42 " 57	2.20
94-E	42 " 60	2.30
95-E	48 " 66	2.45
95-G	48 " 84	2.95
100-E	54 " 72	2.65
100-F	• 54 " 78	2.80
100-G	54 " 90	3.15

Extension Section For 21/2-inch Service Boxes

	Increases Length	Price		Increases Length	Price	
No.	Inches	Each	No.	Inches	Each	
151	91/2	\$.60	153	28	\$.95	
152	161/2	.75	154	33	1.05	

Covers, Bolts and Keys







Price,	Keys		 	 	each	\$.17
"	Extra Cov	ers	 	 	"	.15
"	Brass Bolt	ts	 	 	"	.10

Valve Boxes and Parts







to No. 6 Base



No. 68 Regular Cover Marked Gas



No. 69 Regular Cover Marked Water



No. 255 Flanged Cover



Lock Cover

Valve Boxes, 51/4-Inch Shaft, No. 6 Base

This screw type adjustable valve box is for use with water and gas valves and is interchangeable with all styles of bases.

Covers marked "Water" will be furnished unless otherwise

Size	Extension Length Inches	Price Each	Size	Extension Length Inches	Price Each
AAA	*17	\$6.00	CC	48-60	\$9.00
AA	22-28	7.25	D	42-66	9.45
A	28-40	7.55	E	48-72	10.20
В	36-48	8.20	F	60-84	10.95
C	42-54	8.55	G	72-96	11.90

^{*}Stationary length.

Above prices are for boxes complete with No. 6 base, which is for valves 8 inches and smaller. When furnished with other size bases, prices are reduced or increased in accordance with the following:

Base No.	Shape of Base	Fits Valve Maximum Size Inches	Add to Above Price	Deduct from Above Price
4	Round	4 or Smaller		\$.25
†140	Dome	Up to 24		
8	Round	10 or Smaller	\$.50	AND THE REAL PROPERTY.
16	Round	12 or 16	3.50	
16-24	Round	12 or 16	5.00	
160	Oval	16 or Smaller	.50	
162	Oval	20 or Smaller	3.00	

Covers for Valve Boxes

Price, Regula	ar and Flanged	each
Price, Lock.		each

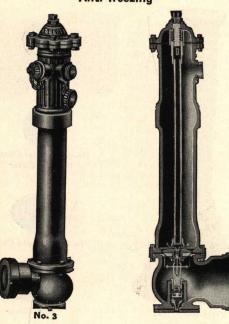


†Same as with No. 6.

Extension	Sections
Increasing Length	

No.	Length of Box Inches	Size Inches	Price Each
58	14	51/4	\$1.75

Eclipse Fire Hydrants Anti-freezing



Sectional View

There is no complicate I mechanism to the Eclipse fire nydrant. Any worn out part can readily be replaced without digging up or disturbing the connection to supply pipe.

By unbolting and lifting top cap, all inside parts may be removed, repaired and replaced with utmost ease.

Equipped with a positive automatic drain insuring the hydrant. Pressure tests to meet any and all requirements of a fire

nydrant. No water escapes through the drain when the hydrant is

When hydrant is closed after operating, all water in the body of the hydrant immediately escapes through drain outlet at the bottom of hydrant. Nos. 6 and 10 hydrants are recommended for steamer noz-

zle connection in addition to the regular hose nozzles. Nos. 6 and 10 hydrants are the same as No. 3, except having

a large valve opening and standpipe.

An extra charge is made for flange inlet or flange inlet with companion flange.

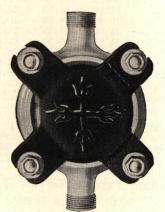
In ordering, always give the following information, viz.-Whether wrought iron pipe thread, flange, bell or spigot connection. Size of bottom connection. Length from pavement to center of inlet. Size and form of nut to open hydrant. Whether to turn to right or left to open. Number and size of Send hydrant cap or hose coupling for gauge of thread.

Unless otherwise ordered, hydrant thread will be made to open by turning to the left. Frost cases furnished if desired.

				No.				
of Inlet	Pave- ment to Center of Inlet Feet	2½-inch	Two 2½-inch Hose Nozzles	Three 2½-inch Hose Nozzles	One Steamer Nozzle	One Steamer and One 2½-inch Nozzle	One Steamer and Two 2½-inch Nozzles	Frost Case Standard Length
3	5	\$32.00	\$34.00	\$36.00	\$34.00		\$38.00	\$7.00
4 5	5	32.00	34.00	36.00	34.00	36.00	38.00	7.00
	5	34.00	36.00	38.00	36.00	38.00	40.00	7.00
6	5	34.00	36.00	38.00	36.00	38.00	40.00	7.00
				No.	6			
4	5	47.00	49.00	51.00	49.00	51.00	53.00	10.00
6	5	47.00	49.00	51.00	49.00	51.00	53.00	10.00
				No.	The second	02.00	00.00	10.00
6	5	47.00	49.00	51.00		51.00	53.00	10.00
Pr	ice.	extra le					ot \$1.50	10.00
6 and	1 10.	\$2.25.	115011, 11	0. 0 50	ma-pipe	e, per re	100 \$1.50	o; Nos.
Pr	ice. e	xtra lei	noth of	frost cas	e No	2 por fo	ot, \$1.0	0. NT
6 and	1 10,	\$2.00.	-Borr Or	TOBU CAR	, 110.	o, per 10	οι, φ1.0	U, INOS.

Trident Frost-proof Disk Meters With Breakable Bottoms





View of Breakable Bottom

Corrosion has always been the greatest enemy of the water meter. Until the adoption of the new Trident Oilenclosed Gear Train the chief cause of failure in service was always the corrosion of the gear train. In many parts of the country, strongly alkaline or slightly acid waters are encountered. Operating directly in the water, the gear train was the first part to be attacked and the resulting corrosion made replacement of this part necessary in a comparatively few years, besides occasioning loss of revenue.

This evil was recognized at an early day and years of study were devoted to the problem of overcoming it, but it was not until the adoption of the expedient of enclosing the train and covering the gears with a special protective lubricating compound that success was achieved

Given proper conditions, any water meter will freeze. This meter is protected by a cast iron cap or bottom and retaining arms, the section of which is designed to withstand all pressures of ordinary service, but which will give away at about five hundred pounds per square inch. This will give away before any other part of the meter can be damaged. When the meter freezes, two of the cast iron arms on the breakable bottom are fractured. Only a few minutes are required to take off the broken cast iron bottom, relieve the measuring chamber of the accumulation of ice and replace the meter in service with a new cast iron bottom at a nominal cost

Size In.	Lgth. In.	Diam. In.	Maxi- mum Ht. In.	De- livery Gal.	Wt. Lbs.	Price Each	Couplings Price per Set
5/8	71/2	51/2	85/8	20	111/2	\$20.00	\$1.00
5/8×3/4	71/2	51/2	85/8	20	111/2	20.00	1.50
3/4	9	57/8	83/4	34	15	30.00	1.50
1	$10\frac{3}{4}$	91/4	91/2	53	26	44.00	2.20

Superior Water Softeners



The Superior Softener provides a constant supply of soft, clean, clear water. It eliminates the cistern with its uncertain, unsanitary supply. It can be installed at less cost than a cistern can be built.

The principle of water softening is not a new one. Its tremendous value has been recognized in industry, in laundries, hospitals and hotels, where it has been used for years. The domestic type of water softener is a development of more recent years.

The household water softener is a simple device. It has no moving parts to wear out and in time cause trouble. It consists of Zeolite, a mineral, and a tank, valves and fittings.

Superior Zeolite has been in use in residential and large industrial installations for more than eight years and has thoroughly demonstrated its worth. Zeolite is the heart of the water softener and its life and satisfactory performance are governed by the quality of the Zeolite.

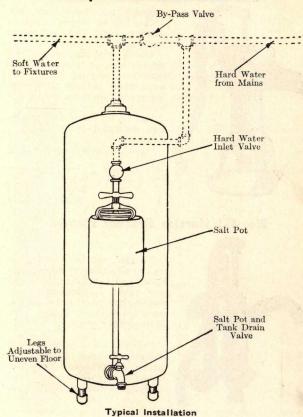
Superior Zeolite is a rugged, porous composition which contains only the necessary ingredients to soften water. It does not add injurious foreign chemicals to the water, will not dissolve, and delivers clean, clear water. It has the same wearing qualities characteristic of sand.

Softened water is delivered to all parts of the house under city water pressure. It is luxurious for the bath, shampoo and shaving. The skin is left soft and smooth. The hair is left soft and with a lustre. There is no high water line left in plumbing fixtures. Clothing is washed with half the soap required when using hard water. Original color is renewed. Strong caustics are dispensed with and the life of the fabric prolonged. It is suitable for drinking and cooking if the hard water is pure. Vegetables are cooked in less time and are more savory. Lime scale in hot water lines, heater coils, water fronts and heaters is eliminated. It cuts grease in drain pipes.

Large capacity necessitating fewer regenerations and quick regeneration are important factors which make the Superior Water Softener popular.

Construction and operation are simple so that any member of the household can operate and regenerate the plant.

Superior Water Softeners



The zeolite extracts lime and magnesia, the hardening elements, instantly when the hard water passes through the bed. It will continue to do so, delivering water soft as rain, until the bed becomes saturated with the hard elements.

It is then necessary to wash salt brine through the zeolite bed. The brine solution forces the hard elements from the bed and they are washed with the salt brine into sewer. Softener will then deliver another capacity run of soft water.

No. in Fam- ily	Consumption per Week Gal.	Consump. When Tub Baths Are Taken by Each Member Daily, Gal.	No. in Fam- ily	Consumption per Week Gal.	Consump. When Tub Baths Are Taken by Each Member Daily Gal.
2	300	600	7	735	1785
3	420	870	8	800	2000
4	520	1120	9	865	2250
5	600	1350	10	940	2400
6	660	1560			

The number of gallons of soft water produced between regenerations is governed by the hardness of the raw water.

							REGENER.		ALLONS-	_
1	No.	14	16	18	20	22	24	26	28	30
S	-10	715	625	555	500	455	440	400	355	330
S	-20	1430	1250	1110	1000	910	885	800	715	660
S	-30	2150	1880	1660	1500	1360	1250	1170	1075	1000
-	-40	3000	2625	2220	2100	1900	1750	1615	1500	1400
S	-50	4285	3750	3330	3000	2725	2500	2310	2140	2000

If larger capacity is required install two units.

	Salt per Regenera-	Size, Lines and Valve	SPACE R	EQUIRED HES	Approx. Shipping	Price
No.	tion, Lbs.	Inches	Floor	Height	Wt., Lbs.	Each
S-10	8	3/4	12x22	58	285	\$110.00
S-20	16	3/4	16x26	58	435	150.00
S-30	24	3/4	16x26	64	596	195.00
S-40	34	1, 11/4	24x36	60	880	320.00
S-50	50	1, 11/4	24x36	72	1128	425.00

Use common barrel or sack salt for regenerating. A pint of salt is approximately one pound. Soap testing outfit and instruction card furnished with softener.

No. 150 Pitcher Spout Pumps



Has closed revolving top Valves trip by raising handle to extreme height, thus preventing freezing of the pump.

Unless otherwise ordered, all pitcher spout pumps will be fitted for iron pipe. If lead pipe connections or brass valve seats are wanted, an extra charge will

Can be furnished with porcelain enameled cylinders when specified.

Str	oke, 4 in	ches; suc	tion, $1\frac{1}{4}$
inch.		PRICE	Е, ЕАСН
No.	Cylinder Inches	Iron Cylinder	Brass-lined Cylinder
2	3	\$4.75	\$7.25
3	$3\frac{1}{2}$	5.25	8.00

No. 451 Hartley Bracket Pumps

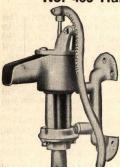


No. 451 can be installed on wall at either end or side of sink. Spout and handle can be set at any angle. Requires no base. Stuffing box, pump rod and valve seats are of brass. Joints, lathe finished fiber gaskets.

Cylinder seamless brass tube; diameter barrel, 2½ inches; stroke of plunger, 4 inches; capacity, 10 gallons per minute; discharge, threaded 34-inch hose.

Price, No. 451 each \$8.00

No. 453 Hartley Bracket Pumps



Can be attached to wall at any point in relation to the sink.

This pump is equipped with a spout and handle which can be turned in any direction. Delivers a continuous stream without force.

Cylinder seamless brass tube; diameter barrel, 2½ inches; stroke of plunger, 4 inches; capacity, 10 gallons per minute; suction tapped for 1¼-inch pipe; pump rod and valve seats of brass.

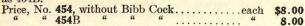
When necessary to fasten pump to baseboard, it can be furnished with an interchangeable post base, and is designated as 453B.

Price, No. 453each \$8.00 **453**B.....

No. 454 Hartley Bracket Pumps No. 454 has 34-inch bibb cock opening for supplying water at sink and 1-inch pipe opening through which water can be raised 30 feet to overhead tank.

Cylinder seamless brass tube; diameter of barrel, 2½ inches; stroke of plunger, 4 inches; capacity, 10 gallons per minute; suction tapped 1¼-inch pipe; plunger rod and valve seats are of brass.

When necessary to fasten pump to baseboard, it can be furnished with an interchangeable post base, and is designated as 454B.



No. 832 Horizontal Force Pumps

Double acting house force pump with brass valves, brass plunger rcd, brass packing gland, brass suction and discharge union connections, brass drain plugs and malleable iron lever. A drip pan is provided underneath stuffing box so any possible drip may be piped away from pump. Air chamber can be reversed so discharge may be used on either side. may be used on either side.

Size No	1	2
Diam. Cylin.	21/2	3
Stroke"	5	5
Suction"	11/4	11/
Discharge "	1	$\frac{1\frac{1}{4}}{1\frac{1}{4}}$
Approx. Wtlbs.	55	63
Price, Iron Cyleach	\$16.00	\$18.00
" Brass Lined Cyl.		
each	18.00	21.00

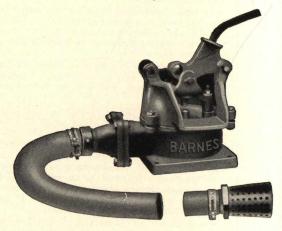
No. 834 Horizontal Force Pumps



Ratchet pneumatic double acting house force pump with brass packing gland, brass drain plugs, malleable iron lever and automatic air intake valve for use with pneumatic water supply systems. All valves are located on one side of pump and are easily accessible by removing side plate, without disturbing balance of pump.

Transfer that the season of th	
Size No	4
Diam. Cylin.	3
Stroke	$4\frac{1}{2}$
Suction	11/4
Discharge	11/4
Approx. Wtlbs.	80
Price, Iron Cyleach "Brass Lined Cyl."	10.00
Diass Linea Cyl.	10.00

No. 869 Barnes Hand Diaphragm Trench **Pumps**



No. 869, side suction hand diaphragm trench pump for Particularly adapted for draining excavations, trenches, sewers, etc. The rubber faced metal valves are easily removable. The wrought iron lever may be used either vertically or horizontally, from either side of the pump.

The capacity depends entirely upon how fast it is operated.

Hose, hose bands and strainer are extra.

No.	Suction Iron Pipe Threads, In.	Approx. Capacity per Hour, Gals.	Price Each
1	$2\frac{1}{2}$	1000-1800	\$20.00
2 3	3	2000-3500	26.00
3	4	4000-6000	48.00

Clayton Mark Brass Jacket Drive Well Points

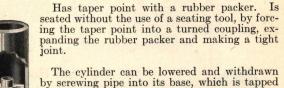


Point before Gauze and Jacket are Put on

Made of standard wrought iron pipe, galvanized. Punched with elliptical holes of uniform size, equal distances apart. Has largest number of holes possible, retaining the strength required for driving. Pipe is galvanized after holes are punched. Driving plug is malleable iron swaged into pipe and riveted. Covered with brass wire cloth protected by heavy sheet brass perforated jacket.

sheet brass perforated jacket. PRICE, PER DOZEN-Size Pipe GAUGE NO. LGTH., IN. Point Jacket 60 24 18 \$33.0 \$ No. 74 90 100 120 \$46.0 \$52.0 40.0 \$62.0 \$74.0 49.0 76 78 42.0 30 24 56.0 64.0 78.0 94.0 36 30 59.0 66.0 76.0 51.0 94.0 114.0 80 1 42 36 60.0 68.0 76.0 88.0 120.0 134.0 82 48 42 69.0 78.0 86.0 100.0 136.0 154.0 48 78.0 87.0 96.0 112.0 152.0 54 174.0 86 14 20 14 30.0 36.0 42.0 50.0 64.0 80.0 52.0 90 1 24 18 36.0 44.0 60.0 80.0 105.0 30 64.0 94 14 24 46.0 55.0 75.0 100.0 130.0 30 76.0 98 13 36 56.0 66.0 90 0 120.0 155.0 100 42 36 66.0 77.0 88.0 105.0 140.0 180.0 102 48 42 76.0 88.0 100.0 120.0 160.0 205.0 54 48 86.0 99.0 112.0 135.0 180.0 106 14 230.0 110 54 96.0 110.0 60 124.0 150.0 200.0 255.0 14 66 60 106.0 121.0 136.0 220.0 165.0 280.0 112 14 66 116.0 132.0 72 148.0 180.0 240.0 305.0 114 1 136 13 24 18 48.0 57.0 65.0 78.0 94.0 112.0 $1\frac{1}{2}$ $1\frac{1}{2}$ 140 30 24 60.0 70.0 80.0 96.0 118.0 139.0 144 36 30 72.0 84.0 95.0 114.0 142.0 166.0 146 42 36 84.0 97.0 110.0 132.0 166.0 193.0 $1\frac{1}{2}$ 42 96.0 148 48 111.0 125.0 150.0 188.0 220.0 15 48 108.0 54 124.0 140.0 168.0 204.0 247.0 150 60 54 120.0 138.0 155.0 228.0 186.0 152 $1\frac{1}{2}$ 274.0 170.0 60 132.0 252.0 154 15 66 151.0 204.0 301.0 156 $1\frac{1}{2}$ 72 66 144.0 165.0 185.0 222.0 276.0 328.0 160 2 24 18 75.0 85.0 94.0 110.0 130.0 150.0 2 30 24 90.0 101.0 112.0 132.0 160.0 185.0 164 $\frac{1}{2}$ 36 30 105.0 154.0 168 118.0 130.0 190.0 220.0 170 42 36 120.0 134.0 148.0 176.0 220.0 255.0 2 2 48 42 135.0 250.0 151.0 166.0 198.0 290.0 172 48 150.0 220.0 280.0 174 54 167.0 184.0 325.0 $\frac{2}{2}$ 60 54 165.0 176 184.0 202.0 242.0 310.0 360.0 178 66 60 180.0 200.0 220.0 264.0 340.0 395.0 180 72 66 195.0 217.0 238.0 286.0 370.0 430.0 180½ 2 182 2 78 72 210.0 234.0 256.0 308.0 400.0 465.0 78 225.0 251.0 274.0 330.0 430.0 500.0 1821/2 2 90 84 240.0 268.0 292.0 352.0 535.0 460.0 2 90 255.0 96 285.0 310.0 374.0 490.0 1831/2 570.0 21/2 250.0 30 175.0 183 24 155.0 195.0 220.0 290.0 $2\frac{1}{2}$ $2\frac{1}{2}$ 184 36 30 180.0 205.0 230.0 260.0 300.0 350.0 188 48 42 230.0 265.0 300.0 340.0 400.0 470.0 192 $2\frac{1}{2}$ 60 54 280.0 325.0 370.0 420.0 500.0 590.0 196 66 330.0 385.0 440.0 500.0 600.0 710.0 197 21 84 78 380.0 445.0 510.0 580.0 700.0 830.0 $2\frac{1}{2}$ 90 430.0 505.0 580.0 660.0 199 96 800.0 950 0 3 36 30 240.0 310.0 340.0 200 275.0 410.0 490.0 42 300.0 204 48 345.0 390.0 430.0 520.0 630.0 3 208 60 54 360.0 415.0 470.0 520.0 630.0 770.0 3 212 72 66 420.0 485.0 550.0 610.0 740.0 910.0 850.0 1050.0 214 84 78 480.0 555.0 630.0 700.0 215 3 96 90 540.0 625.0 710.0 790.0 960.0 1190.0 31/2 36 30 300.0 390.0 520.0 610.0 202 345.0 430.0 520.0 206 3 48 42 360.0 470.0 630.0 750.0 415.0 31 60 210 54 420.0 485.0 550.0 610.0 740.0 890.0 213 $3\frac{1}{2}$ 72 60 480.0 555.0 630.0 700.0 850.0 1030.0 960.0 1170.0 218 $3\frac{1}{2}$ 84 72 555.0 640.0 725.0 805.0 219 31 96 84 630.0 735.0 820.0 900.0 1070.0 1310.0 36 480.0 520.0 560.0 600.0 700.0 216 4 48 810.0 220 840.0 1000.0 1270.0 72 60 630 .0 695 0 760.0 4 870.0 960.0 1080.0 1300.0 1610.0 224 96 84 780.0 4 120 108 930.0 1045.0 1160.0 1320.0 1600.0 2010.0 Please order by number, stating mesh of gauze.

No. 452 Eureka Taper Point Tubular Well Cylinders



to receive it.

The list gives the sizes of nine for which the

The list gives the sizes of pipe for which the cylinder bases are tapped.



Size Well Inches	Inside Diameter Cylinder Inches	Stroke Inches	Base Tapped for Pipe Inches	Price Each
2 2	1^{13}_{16} 1^{13}_{16}	12 16	3/4 3/4	\$6.40 7.60
$2\frac{1}{2}$ $2\frac{1}{2}$	$\frac{2\frac{1}{4}}{2\frac{1}{4}}$	12 16	1 1	11.00 12.50
3 3	$\frac{2\frac{3}{4}}{2\frac{3}{4}}$	12 16	$\frac{1\frac{1}{4}}{1\frac{1}{4}}$	15.00 17.00
3½ 3½	3 3	$\begin{array}{c} 12 \\ 16 \end{array}$	1¼ 1¼	30.00 33.00
4 4	$\frac{31/2}{31/2}$	12 16	2 2	36.00 42.00

Western Style Check Valves





For Inside Cap

Made with brass cage and poppet, with rubber facing. A quick closing valve which is more efficient and more durable than the leather hinge valve.

The Western Style Check Valve is desirable in large size cylinders on account of its quick closing permitting of a larger opening through cap.

Size of	PRICE,	Еасн	Size of	PRICE, EACH	
Cylinder Inches	Outside Cap	Inside Cap	Cylinder Inches	Outside Cap	Inside Cap
2	\$.40	\$.50	31/2	\$.50	\$.70
21/4	.40	.50	4	.50	1.00
21/2	.40	.60	41/2	.80	1.00
$\frac{2^{1/2}}{2^{3/4}}$.40	.60	5	1.20	1.50
3	.50	.70	6	1.50	2.00
31/4	.50	.70	8	2.50	4.00

Style AM Oshkosh Cylinder Plungers



One-leather all iron plunger, used in all iron cylinders 10 inches long, and longer cylinders where single leather plungers are specified.

Size	Price	Size	Price
Inches	Each	Inches	Each
21/2	\$1.00	31/2	\$1.20
3	1.00	4	1.60

No. 535 Clayton Mark Vertical Iron Check Valves

Tapped for standard pipe thread. Size PRICE, EACH Pipe, In. Plain Galv. PRICE, EACH Clain Galv. Size Pri Pipe, In. Plain 3/4 \$1.50 \$2.00 2 \$3.00 \$4.50 2.25 2.75 1.75 21/2 4.25 6.00 2.00 3 6.00 10.00 2.50 3.50



No. 530 Iron Horizontal Check Valves

Size Pipe	PRICE.	Елсн	Size	PRICE	. EACH
In.	Black	Galv.	In.	Black	Galv.
3/4	\$1.00	\$1.50	2	\$2.75	\$4.00
1	1.25	1.75	21/2	6.00	9.50
11/4	1.50	2.25	3	7.50	12.00
11/2	2.00	3.00			

Arch Pattern Float Valves





Water Conductors

Designed for the purpose of conducting water from the spouts of pumps to troughs and tanks situated in different parts of the farm or yard. The swivel arrangement allows it to be swung in different directions without removing from spout or pump.

Size i	nches	1½ or 1½	.72
Price	.each	\$.60	
		All and a second	

Wood Rod Couplings

Two, Three or Four-Hole



These couplings are made with a socket for the ends of the rod to be driven into, to prevent splitting.

No.	For Rods Inches	No. Holes	Pipe Thread Inches	PRIC	E, PER SET Galvanized
430	1 and 11/8	2	3/8	\$.40	
432	1 " 11/8	2	3/8		\$.48
435	1 " 11/8	3	3/8	.48	.60
436	11/4 " 13/8	3	1/2	.75	1.00
437	1½ " 1¾	4	3/4	2.25	2.85

Hexagon Pump Rod Couplings

No.	Size Rods Inches	Threads to Inch		PER POUND alv. Brass	
720	3/8	14 regular	\$.32 \$.4	10 \$1.00	
722	3/8	16 to order		10 1.00	MARK
724	3/8×7/6	12x14	.32 .4	10 1.00	
726	7/16	12	. 2 .4	10 1.00	
728	1/2	12	.32 .4	10 1.00	
730	1/2 x 7/6	12	.32 .4	10 1.00	

Common Valve Leathers

For Pump Cylinders



Size Inches	Price per Doz.	Size Inches	Price per Doz.	Size Inches	Price per Doz.
2 21/4	\$.80 1.00	3 31/4	\$1.80 2.00	4½ 5	\$4.00
2 ¹ / ₄ 2 ¹ / ₂ 2 ³ / ₄	1.30	3½ 4	2.40 3.00		

Cupped Plunger Leathers

For Pump Cylinders



Size Inches 3/4 1 11/4 11/2 15/8	Price per Doz. \$.40 .50 .60 .70 .80	Size Inches 2 2 1/4 2 1/2 2 3/4 3	Price per Doz. \$1.00 1.20 1.40 1.70	Size Inches 3½ 4 4½ 5	Price per Doz. \$2.80 4.00 5.00 7.20
13/4	.90	31/4	2.00 2.40		

No. 1648 Myers Suction Strainers

MYERS	Size Inches 11/4 11/2 2 21/2
The state of the s	The second second

~		PRICE, EACH	-
Size Inches	Plain	Galva- nized	*Galva- nized
11/4	\$.35	\$.55	\$.80
2 2	.50 .65	.60	.90
21/2	1.15	.85 3.50	1.20
3 *Gauze	1.50	4.25	4.00 6.00

No. 618 Malleable Iron Drive Caps

This cap is especially designed for driving pipe and well points. Size, Pipe Inches Each $1^{1}/4$ \$.20 $2^{1}/2$ \$1.00 $1^{1}/2$.24 3 1.25 2 .44 4 1.50



No. 419 Cast Steel Drive Shoes

This shoe is made of steel casting and is stronger than the malleable shoe. It is furnished both finished and rough, the finished shoe being turned true both inside and outside.



Size Pipe Inches	PRICE,		Size Pipe	PRICE	Еасн
	Rough	Finished	Inches	Rough	Finished
11/2	\$.80	\$1.00	41/2	\$3.75	\$6.00
2	.80	1.00	5	4.25	7.00
2½ 3	1.10	1.30	*55/8	6.50	9.00
	1.50	2.00	6	6.50	9.00
31/2	2.50	3.50	8	8.00	12.00
4	2.75	4.00	10	12.50	18.00
*For v	vell casing.		12	25.00	35.00

No. 1560 Goulds Improved Pumping Jacks



A geared power attachment which can be used to connect any windmill pump standard by belt to any source of power.

All that is necessary in attaching the jack is to clamp it to the standard near the base, disconnect the pump lever, and bolt the crosshead to the windmill rod.

The pump can then be operated by hand, windmill or engine as desired, by changing one pin and adjusting the crosshead or lever on the pump rod.

The stroke is adjustable, 6, 8 or 10 inches, by changing the wrist pins in the wheels.

The jack is geared 5 to 1.

The pinion is covered with a guard.

The position of the gears is such as to eliminate side thrust on the plunger

When ordering jack, always specify number of pump with which is to be used.

			Size of		
	Stroke		Tight and Loose	Weight	Jack Only
No.	Adj. Inches	Geared	Pulleys	Pounds	Price, Each
1560	6, 8 and 10	5 to 1	$12x2\frac{1}{2}$	94	\$16.50

Goulds Improved Hydraulic Rams

The hydraulic ram is a selfacting pump which utilizes the momentum of a fall of water to force a part of the water to an elevation many times as high as the fall used to operate the ram. The simplicity, effectiveness and durability of this machine make it one of the most useful as well as the most economical of the equipments available for forcing water to distant and elevated points.

A slight fall only is required to operate the ram, but as the amount

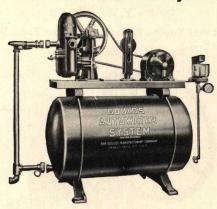
of fall is increased its operation becomes more powerful, and it will force the water in a proportionately larger flow or to a proportionately higher elevation. The amount of water delivered, or the proportion of the water raised to the amount wasted in operating the ram, varies with the amount of fall and height to which it is elevated. An increase in the available fal or a decrease in the height the ram has to elevate the water will cause a corresponding increase in the amount of wate delivered by the ram.

Ram has rubber disc valve on bronze grid seat with cylindrically wound spring below air chamber.

No.	Size No.	Supply Gallons per Minute to Operate Ram	PIPES, Drive	In. Discharge	Approx. Weight Pounds	Price Each
1701	3	2 to 4	1	1/2	35	\$17.75
1701	4	3 " 7	11/4	1/2 3/4	53	23.00
1702	5	6 " 12	2	1	94	28.25
1703	6	11 " 20	21/2	11/4	165	45.00

*No. 1701 fitted for either iron or lead pipe.

No. X-210 Autowater Systems



The Autowater is an independent water supply system—a complete unit, assembled and ready for immediate connection to house piping and electric wiring. Current supplied either from central station or farm lighting plant. This outfit will supply running water under pressure automatically at the rate of 210 gallons per hour.

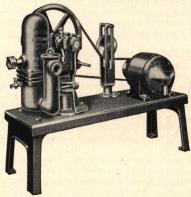
The system has been designed and built for service in hard water cities, towns and outlying districts where soft water is desired. It is capable of furnishing liberal quantities of running water for the average six room house including bath room with tub bath, and the usual other fixtures in the kitchen and laundry.

In average suburban, village or country homes not directly supplied from a central water supply station, this system will

give the equivalent of city water service.
Suction, 34 inch. Discharge, 34-inch. Maximum suction lift, 22 feet. Maximum working pressure, 43 pounds. Overall dimensions, 48x20x41 inches. Shipping weight, 270 pounds.

Prices upon application.

No. W-210 Pumping Units Electric Motor Driven-Without Tank



This electrically driven pumping outfit will draw water automatically from cisterns, shallow wells, springs, streams and lakes at the rate of 210 gallons per hour.

Recommended for those who have their own tanks, either pneumatic or open or for replacing water motors, etc.

By use of a pressure regulator or a float switch, this outfit is equipped to work automatically either on open or pneumatically either on open o matic tanks. A pressure regulator is furnished with this

pump. An automatic float switch at extra cost.

Complete outfit consists of: Single acting, outside packed plunger pump; ¼-horse power electric motor; belt idler; 1-inch fat leather belt; heavy oak base with cast iron legs; air attachment; automatic, double-pole electric pressure regulator starts and stops motor. Set to start at 23 pounds and stop at 43 pounds, relief valve.

In ordering give current specifications.
Suction, ¾ inch. Discharge, ¾ inch. Maximum suction lift, 22 feet. Maximum working pressure, 43 pounds. Overall dimensions, 33x13x251½ inches. Weight, 146 pounds. Prices upon application.

Goulds Autowater Deep Well Pumping Outfits

Outfits Y, YA and YB

Electric and Engine Driven-For Open Tank Service

Capacity, 150 Gallons per Hour



Outfit Y is equipped with a ¼-horsepower motor and is used where the source of water is more than 22 feet below the suction inlet of the pump, but not greater than 50 feet. Total head not to exceed 150 feet.

Outfit YA is equipped with a ½-horsepower motor and is used where the water is more than 50 feet but not greater than 100 feet below the suction inlet. Total head not to exceed 200 feet.

Outfit YB is same as outfit YA except that it is fitted with a ½-horsepower, 4-cycle gasoline engine instead of electric motor.

When connected up to an open tank and plumbing lines, these outfits will supply running water in the average suburban or farm home sufficient for the customary needs of laundry, kitchen and bathroom. These outfits, which are recommended mainly to purchasers who have open tanks, can be equipped to operate automatically by the use of an automatic float switch, furnished at an extra cost. For cold climate localities an anti-freeze attachment is furnished which enables the water to be carried through underground pipes below frost line to point of destination. This attachment is extra.

Furnished with No. 1697 pumping head with 4-inch stroke. Machine cut gear and pinion. Bearings lubricated from large oil pockets, from which oil is carried by means of wicks. Electric motor is of repulsion-induction type of standard make with surplus power. Has floating idler requiring neither oiling nor other attention. Belt is flat, weatherproof leather, endless. Base is of heavy wood, waterproofed. Has No. 1708 cylinder with brass body; of single-acting type. Size, 2½x4 inches. Suction opening for 1-inch pipe. Top cap tapped for 2½-inch pipe.

Complete outfit is mounted on wood base and shipped com-

Complete outht is mounted on wood base and shipped completely assembled. Cylinder separate. Purchaser must supply connecting pipe and well rod. Pipe sizes: drop pipe, 2½-inch; discharge opening, 1½-inch. Bushed for smaller size drop pipe at no extra charge. Head and cylinder fitted for ½-inch rod.

Shipping weights: outfit Y, 259 pounds; outfit YA 290 pounds; outfit YB, 290 pounds.

When ordering give current specifications. If direct current, the voltage; if alternating current, the voltage, cycles and phase.

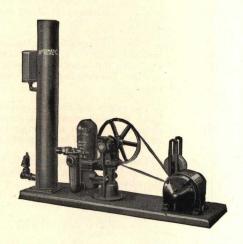
Price, Outfit Y, Including Repulsion-induction Motor of 110 or 220 Volts, 60 Cycles, Alternating Current, or 32 or 110 or 220-volt, Direct Current

eacheach	\$116.00
Price, Extra, for 25-cycle Repulsion-induction Motor each	8.50
Price, Outfit YA, Including Repulsion-induction	0.50
Motor of 110 or 220 Volts, 60 Cycles, Alternating	
Current, or 110-volt, Direct Current each	145.00
Price, Extra, for 25-cycle Repulsion-induction Motor	armed 12
D:each	33.00
Price, Outfit YB, Same as YA except Gasoline Engine	3 J. *

Driven each 190.00

No. W-4 Goulds Motor Driven Automatic Oiling Autowater Pumping Outfits

Capacity-210 Gallons per Hour



This electrically driven pumping outfit is for installation where water is desired direct from the well. The tank is not intended for storage but to act mainly as a cushioning chamber for the automatic regulator. The efficient design of this chamber and piping minimizes the possibility of water logging which is one of the principal difficulties of all other small-tank, fresh-water systems.

The unit as furnished is completely assembled and ready for immediate connection to house piping and electric wiring. It is suitable for pumping water from cisterns, shallow wells, springs, streams and lakes at the rate of 210 gallons per hour, where running water is desired for household use, including limited quantities of water for sprinkling purposes.

It is recommended particularly for: Small homes, summer cottages, camps, yachts, etc; where a modern and up-to-date electric pump is desired that will furnish the equivalent of city water service at a small cost and with little attention.

A pressure regulator which is furnished with the outfit makes this system entirely automatic in operation. A relief valve is also included.

Average operating cost: 2 to 4 cents per day.

Complete outfit includes: Goulds Fig. 1695 pump, 210-gallon, single-acting, outside packed, plunger type and automatic oiling; electric motor, ¼ h.p. repulsion-induction a.c. or compound wound d.c. of standard make; belt tightener with floating pulley, requires neither oiling nor other attention; 1-inch flat, endless, water-proof leather belt; heavy oak base; air attachment of simple construction, no working parts; automatic, double-pole electric pressure regulator starts and stops motor, set to start at 23 pounds and stop at 43 pounds; standard spring type relief valve; welded steel cushioning chamber.

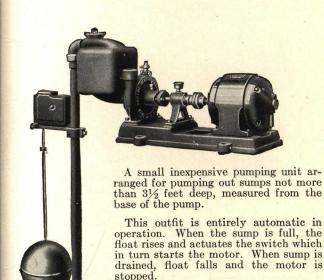
In ordering, give current available. If d.c., the voltage; if a.c., the voltage, cycles and phase.

OutfitNo.	W-4
Suction, Pipe Size inches	3/4
Discharge Pine Size inches	1/2
Over All Dimensions inches	42x13x50
Maximum Working Pressurepounds	43
Maximum Suction Liftfeet	22
Capacity per Hour. gallons	210
Shipping Weightpounds	190

Prices upon application.

No. 3034 Goulds Electric Centrifugal Sump Pumps

Horizontal Type



Electric current is used only when the pump is running.

This outfit is equipped with a special priming chamber which makes the unit entirely self-priming when used for suction lift not over $3\frac{1}{2}$ feet.

Minimum diameter of the drainage pit is 13½ inches.

Pump.—Single stage, single side suction horizontal centrifugal pump in standard fitted or bronze fitted construction. The diameter of the discharge is 1 inch. The pump shaft is connected to motor shaft by flexible coupling.

Motor.—110-220-volt, 60-cycle, a. c., 1750 r. p. m.; 110-220-volt, 25-cycle, 1450 r. p. m.; 110 or 220-volt d. c., 1750 r. p. m. motors can be furnished with this outfit if desired.

SWITCH.—Double pole type mounted on bracket on suction pipe, all working parts completely enclosed.

FLOAT.—Copper float and brass rod actuate the automatic switch.

Capacities and Heads with 1/4 H.P., 1450 R.P.M. Motor

Gallonsper minute	10
*Total Headfeet	10

Capacities and Heads with 1/4 H.P., 1750 R.P.M. Motor

Gallons	 per minute	20
*Total Head	 feet	20

*Total head equals distance from water level to point of discharge plus pipe friction.

.....each 106.25

\$92.00

Price, No. 3034, with Float Switch and ¼ H. P.,
1750 R. P. M., 60-Cycle Single Phase, 110-220-
Volt Alternating Current, or 110-Volt Direct
Current, or 220-Volt Direct Current Motor.
Bronze Fittedeach
Price, No. 3034, with Float Switch and ¼ H. P.,
1450 R. P. M., 26-Cycles, Single Phase, 110-220-
Volt Alternating Current Motor, Bronze Fitted

Sump Pumps

Figure 3029 Goulds Electric Centrifugal



A completely assembled unit built in one size. When sump is full the float rises and actuates the switch which in turn starts the motor. When sump is drained, the float falls and motor is stopped.

Electric current is used only when pump is running.

The pump is always submerged and ready to start. No priming necessary.

Can be used as boiler feed pump for low pressure boilers; in condensation service for returning miscellaneous drainage to hot well; as a transfer pump, for automatically draining vats, transferring liquids, etc.

Has a cast iron volute casing.

Open type bronze impeller. Tobin bronze shaft, and cast iron strainer.

Pump is suspended by 2½-inch steel pipe. The pit cover is 20 inches in diameter and fits into the bell of a standard 18-inch sewer tile. Pit depth, 24 inches. The pump shaft is supported by a self-aligning ball thrust bearing mounted in dustproof housing and lubricated by grease cup. Pump-shaft is connected to motor shaft by flexible coupling. Discharge pipe, one inch.

Has ¼ horsepower vertical type drip proof mounted on pit cover. Motor shaft transmits torque only and does not carry any weight of pump parts. The following motors can be furnished. For single phase: Repulsion type; 110 or 220 volt; 60 cycle; 1750 r.p.m. and 25 cycle 1450 r.p.m.

For 2 or 3-phase: Can be operated on 1-phase or 2 or 3-phase circuit. For direct current: Compound wound type; 110 volts; 1750 r.p.m. Switch is a double pole type mounted on pit cover, all working parts entirely enclosed.

Copper float and brass rod actuate the automatic switch.

Capacities and Heads with 1/4 H.P., 1750 R.P.M. Motor

Ga	1	pe	er min.	10	15	20	25	30	35
He	l		feet	24	22	20	18	16	13

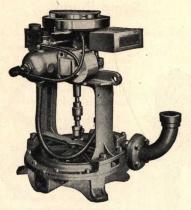
Capacities and Heads with 1/4 H.P., 1450 R.P.M. Motor

Gal	per min.	12	15	20	25	30
Head	feet	15	14	13	11	8

Figure 3029, No. 0, has a brass fitted pump including float switch.

App	prox., S	hip. Price s. Each
	V 0., 110	s. Hach
Pump Has ¼ H.P., 1750 R.P.M., 60 Cycle, 110 or 220 Volt Interchangeable, Single Phase,		
Alternating Current Motor	135	\$140.00
Pump Has 1/4 H.P., 1750 R.P.M., 110 Volts,		
Compound Wound, Direct Current Motor	135	140.00
Pump Has 1/4 H.P., 220 Volt, 1750 R.P.M.,		
Compound Wound, Direct Current Motor.	135	140.00
Pump Has 1/4 H.P., 1450 R.P.M., 25 Cycle, 110		
or 220 Volt Interchangeable, Single Phase		
Alternating Current Motor	140	147.00

No. 1 Evinrude Centrifugal Pumps



The No. 1 Evinrude Centrifugal Pump fills the need for a light, compact, easily portable pumping unit capable of hand-ling large quantities of water to or from the job, clearing

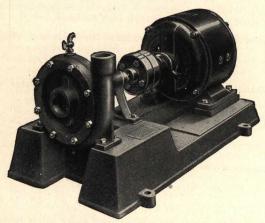
trenches or excavations, supplying tanks, etc.

If desired, the pump can be set down in the excavation and the base submerged in the water. When used in this way no suction pipe is required and there is no need of priming.

Head in Feet	Capacity Gallons per Hour	Speed R. P. M.	With 2 H. P. Evinrude Power Plant Price, Each
0	6800	835	\$150.00
5	6575	865	150.00
10	6150	895	150.00
15	5650	920	150.00
20	5000	950	150.00
25	4175	980	
30	3275	1010	150.00
35	1200	1040	150.00 150.00

No. 3004 Goulds Centrifugal Pumps

Direct Connected to Electric Motor Single Stage, Single Suction



The discharge nozzle is same size as the suction nozzle. Suitable for moderate heads as follows:

No. 1 is limited to 25-foot head.

No. 1½ is limited to 50-foot head.

Can be furnished standard fitted, brass fitted, or brass.

These brass pumps have all parts which come in contact

with the liquid made of brass.

Brass fitted construction should always be used where pumps are to be used for handling hot water.

Ratings are based on pumping clear, cold water.

No.	Nozzle Suction	, INCHES Discharge	Capacity, Gallons per Minute	Shipping Weight, Pounds
1	11/2	11/2	30	125
11/2	2	2	70	200
Prices	upon applies	tion		

American-Marsh Centrifugal Automatic Boiler Feed Pump and Receiver

Horizontal Pattern, for Low Pressure Heating Systems

Motor Driven



The pump and tank are mounted on a heavy cast-iron drip pan which catches the drips from the entire unit. The tank is made of close grained cast-iron and is firmly mounted on two cast-iron legs. The pump casing is of the overhanging type and may be turned so that the discharge may be taken in any direction desired. The pump and motor are connected by a flexible coupling and the bearing is babbitted and equipped with thrust collar.

Standard receivers are mounted on legs 12 inches high. If low tank is desired, they can be mounted on legs 2 inches high,

as shown by illustration.

Regulations relative to the use of starters or accelerating switches vary in different localities, but any make of starter specified by the customer can be furnished at an extra charge. Ordinary starters are not required on motors of 3 h.p. or less. The use of compound wound motors is strongly recommended for this service. When the customer furnishes his own motor same should be sent for mounting and testing.

Size	Radiation Surface	Gal.	Max. De		Speed-
Pump	in Sq. Ft.	per Min.	PRESSUR Lbs. F		.P.M. Max.
3/4AMR	2000 to 3500	10	8 1	1.1111.	
3/4BMR	5000 " 7000	10	10 2	1101	
1 AMR	7000 " 12000	25	_	$\frac{1.5}{1200}$	
1 AMR	7000 " 12000	25	10 2		1000
1 BMR	7000 " 12000	25	15 3		
1 BMR	7000 " 12000	25	20 40		_000
11/2AMR	12000 " 30000	60	5 1	1.5 840	
11/2AMR	12000 " 30000	60	10 23	3 1200	
11/2AMR	12000 " 30000	60	15 35	1450	
1½AMR	12000 " 30000	60	20 46		2650
1½BMR	25000 " 50000	70	25 58		1905
1½BMR	25000 50000	70	30 70	1000	2040
11/2BMR	25000 " 50000	70	35 81	1450	2175

Size of	H.P.	Size of Inc.	REC'R.	Size Inlet	Weight Less Motor
Pump	of Motor	Width	Lgth.	Inches	Pounds
3/4AMR	1/2	16	32	21/2	550
3/4BMR	1/2	16	32	21/2	600
1 AMR	3/4	16	32	21/2	650
1 AMR	3/4	16	32	21/2	650
1 BMR	1	16	32	21/2	900
1 BMR	11/2	16	32	$\frac{272}{21/2}$	
11/2AMR	1	20	41	472	900
11/2AMR	11/2	20	41	4	1200
11/2AMR	11/2	20	41	4	1200
11/2AMR	2	20	41	-	1200
11/2BMR	3	20		4	1200
11/2BMR.	5	20	41	4	1450
1½BMR	5	The state of the s	41	4	1450
172DMIK	9	20	41	4	1450

Capacity rating above is for direct radiation. Where the indirect (fan blast) system is used one-sixth of the above rating should be used.

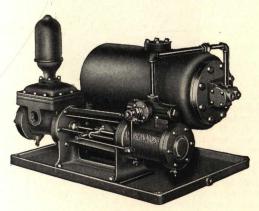
Prices upon application.

American-Marsh Automatic Boiler Feed Pump and Receiver



Sizes 1A to 4A Inclusive

The simplicity of the valve makes it practically impossible for it to get out of order.



Sizes 5A to 9A Inclusive

These outfits are furnished complete as illustrated, all self-contained on a substantial sub-base ready to connect to piping.

Capacity rating is for direct radiation; where the indirect, fan blast, system is used, make allowance for increased condensation.

The pumps described will operate on as low as 30 pounds pressure.

Low pressure outfits can be furnished when desired to operate on from 8 to 20 pounds of steam.

	CYL. S	izes, I	NCHES		PIPE S	IZES,	In. —	DRAINING	CAPACITY	Wt.
No.	Steam	Water	Stroke	Steam	Exh'st	Inlet	Deliver	y Sq. Ft.	1-in. Pipe	Lbs.
*1A	$2\frac{1}{2}$	13/8	2	1/4	3/8	2	1/3	1000	3000	310
*2A	3	13/4	21/2	3/8	1/2	2	3/4	2000	6000	340
*3A	4	23/8	3	3/8	3/4	2	3/4	3000	9000	600
*4A	5	3	$3\frac{1}{2}$	1/2	3/4	2	1	4500	13500	650
5A	5	3	6	1/2	3/4	2	11/4	7500	22500	1050
6 A	$5\frac{1}{2}$	31/2	6	3/4	1	2	11/2	9000	27000	1100
7A	6	35/8	8	3/4	1	21/2	2	13000	39000	1150
8A	6	4	8	3/4	1	21/2	2	15000	45000	1160
9A	7	4	8	1	11/4	21/2	2	15000	45000	1220
10A	8	5	10	1	11/2	31/2	21/2	27000	81000	3080
11A	10	6	12	11/4	11/2	4	3	40000	120000	3200
12A	12	71/4	12	11/2	2	5	4	65000	195000	3390
13A	12	8	12	11/2	2	5	4	70000	210000	3400

^{*}Equipped with Marsh valve gear.

Prices upon application.

Marsh Deep Well Pumping Engines Plain Yoke Base Type



This engine is simple and compact in construction and is especially adapted for service where a small, moderate priced deep well head is required. It is fully bronze fitted and cannot short-stroke, race or pound. Suitable regulating valves are furnished for equalizing the up and down strokes.

Unless otherwise ordered, flanges for well and delivery pipes will be threaded standard sizes as below. If wanted special, be careful to indicate size, and state whether pipe or casing thread is wanted, also if U.S. or other tubes are to be used.

If order includes both engine and pump cylinder, flange for engine base with same size pipe connection as top of water cylinder cap will be provided in all cases.

Piston rod couplings and water cylinder plungers are threaded standard U. S. pipe sizes, and sucker rods may be either made up of coupled pipe sections, or wooden rods may be used having suitable straps for attaching at ends to bucket and piston.

Diam. Steam Cylinder Inches	Stroke Inches	Steam Pipe Inches	Exhaust Pipe Inches	Well Rod Inches	Well Pipe Inches	Delivery Pipe Inches	Floor Space Inches	Weight Pounds
4	6	3/8	3/4	3/8	2	11/4	8x 8	80
4	8	3/8	3/4	3/8	2	11/4	8x 8	85
5	12	1/2	3/4	1/2	21/2	2	12x12	200
6	12	3/4	1	1/2	3	21/2	12x12	250
6	24	3/4	1	3/4	3	$2\frac{1}{2}$	18x18	450
6	36	3/1	1	3/4	3	$2\frac{1}{2}$	18x18	500
7	24	1	11/4	3/4	3	21/2	18x18	480
7	36	1	11/4	3/4	3	$2\frac{1}{2}$	18x18	525
8	24	1	11/2	1	5	31/2	22x22	900
8	36	1	11/2	1	5	31/2	22x22	920
Pric	es upo	on app	lication					

American Plain Belted Power Pumps



				Di	MENSION	IS. INCI	IES			
Diam		Gal.	Max.	Suc-	Deliv-			Pulley	Floor	
Cyl.	Stroke	per	Head in	tion	ery	Diam.	Face	Speed	Space	Wt.
In.	In.	Min.	Feet	Pipe	Pipe	Pulley	Pulley	R.P.M.	In.	Lbs.
3	6	16	350	2	$1\frac{1}{2}$	25	5	50	22x46	700
31/2	6	23	350	2	$1\frac{1}{2}$	25	5	50	22x46	750
33/8	6	25	350	2	$1\frac{1}{2}$	35	5	50	22x46	750
4	6	31	350	$2\frac{1}{2}$	2	25	5	50	22x47	800
41/2	6	40	160	3	$2\frac{1}{2}$	30	5	50	22x48	850
5	6	50	160	3	$2\frac{1}{2}$	30	5	50	22x48	850
51/2	6	60	160	3	$2\frac{1}{2}$	30	5	50	22x48	850
6	6	71	160	3	$2\frac{1}{2}$	30	5	50	22x48	850
41/2	8	55	160	3	$2\frac{1}{2}$	30	5	50	22x60	1000
5	8	66	160	3	$2\frac{1}{2}$	30	5	50	22x60	1000
51/2	8	81	160	3	$2\frac{1}{2}$	30	5	50	22x60	1000
6	8	96	160	3	$2\frac{1}{2}$	30	5	50	22x60	1000
61/2	8	110	160	31/2		30	5	50	24x60	1200
7	8	130	160	$3\frac{1}{2}$	3	30	5	50	24x60	1230
8	8	170	130	$3\frac{1}{2}$		30	5	50	24x60	1300
P	rices u	ipon	applica							

Reliance Vertical Steam Boilers

For 100 Pounds Working Pressure



Built according to A. S. M. E. specifications, of open hearth, homogeneous, flange steel plates, having a tensile strength of 60000 pounds per square inch.

Made in the extended ash pit type only, as this type of construction is more convenient and durable than the cast iron base and ash pit used on most boilers.

Every boiler is provided with a stack, a complete set of high grade steam trimmings and fittings, as well as a steel bottom plate and hand holes above the flue sheet and mud ring. Will pass the inspection of any state or city except the state of Massachusetts and the city of Seattle. Special boilers to meet these inspections built to order on short positions. to meet these inspections built to order on short notice.

Thick-Thick- FIREBOX, INCHES

In. ness Diam.

5/16 19 5/16 25

Ht.

181/2

ness ness In-Shell Heads Thick- side

No. of Size
Two-Lgth. Safety
inch Tubes Valve
Tubes In. In.
30 32 1

Submerged tube type built to order only.

In.

Ht.

Over All In.

60

Diam Ht

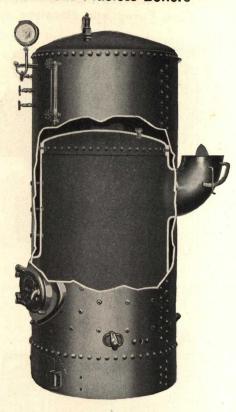
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Horse Shell Boiler Power In. In.

501/2

8 10	30 30	59 72		69 81 ¹	2 1/4 2 1/4	78 3/8 3/8	5/16 5/16 5/16	25 25	18½ 22 27	40	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
12 15 20	34 36 42	71 83 83		80 93 93	1/4 1/4 15/16	3/8 3/8 3/8	5/16 5/16 3/8	$31\frac{1}{2}$ $31\frac{1}{2}$ $35\frac{1}{2}$	27 30 30	63	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
25 30 35	42 42 42	89 95 89		98 104 98	5/16 5/16 15/16	3/8 3/8 3/8	3/8 3/8 3/8	$35\frac{1}{2}$ $35\frac{1}{2}$ $41\frac{1}{2}$	30 30 30	90	$\begin{array}{cccc} 60 & 2 \\ 66 & 2 \\ 60 & 2\frac{1}{2} \end{array}$
40	48	95		104	15/16	3/8	3/8	41½	30	132	66 3
	Globe and Check	Size Blow- off I Cock In.	Diam Stack	Thick- n. ness k Stack Gauge	Trim- ings	LBS.		Boiler Price Each	Deduct for Fittings	Deduc for Injecto	for
5 8 10	1 2 1 2 1 2	1 1 1	$10 \\ 14 \\ 14$	14 14 14	$150 \\ 200 \\ 200$	$900 \\ 1500 \\ 1600$	3		\$24.00	\$6.00	\$6.00 8.00
12 15 20	123434	$1 \\ 1 \\ 1^{\frac{1}{2}}$	14 15 16	14 14 14	250 300 350	$1850 \\ 2050 \\ 2750$		194.00 564.00 300.00	28.00 28.00 30.00	6.0	0 12.00
25 30 35	3 43 43 4	$1\frac{1}{2}$ $1\frac{1}{2}$ $1\frac{1}{2}$	16 18 18	14 14 14	450 600 600	3400 3800 4100	11	064.00 170.00 802.00		8.00	0 14.00 0 16.00
40	1	$1\frac{1}{2}$	24	14	700	4700	15	30.00	36.00	8.00	0 18.00

Famous Flueless Boilers



There are no flues to clean or replace. A good boiler for hard water. Built in strict accordance to the A. S. M. E. hard water. Built in strict accordance to the A. S. M. E. code and is regularly constructed for 100 pounds working pressure and tested to 150 pounds hydrostatic pressure. Boiler furnished complete with fire door and frame, ash door, grates, smoke collar with steel elbow and damper, and handhole plates complete with gaskets, bolt and arch. Fittings include pop safety valve, steam gauge and syphon, water gauge complete, gauge cocks, injector with check and feed valve and blow-off cock.

feed	feed valve and blow-off cock.									
Horse-power 11/2 2 3 5 6 8 10 12 15 20 25 30	Diam. Boiler In. 20 20 24 24 26 30 30 34 36 42 44 48	Ht. Boiler In. 36 42 48 56 62 72 84 72 96 96 108 120	Depth Ash Pit In. 7 7 7 7 7 7 7 7 8 8 8 8 9 9 9	Ht. Boiler Over All, In 43 49 55 63 69 79 91 80 104 117 129	Box	\(\frac{1}{2}\)	Ht. Fire Box In. 24 28 32 37 41 48 52 48 64 64 72 80	Thick ness! Shell In. 1/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4/4	Fire Box In. 5/6 5/6 5/6 5/6 5/6 5/6 5/6 5/6 5/6 5/6	Thick. Top Head In. 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8
Horse-power 1½2 2 3 5 6 8 10 12 15 20 25	Thick. Fire Box Head, In. 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8 3/8	Size Safety Valve In. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Size In- jector In. 3/8/3/8/3/8/3/8/3/8/3/8/3/8/3/8/3/8/3/8	Size Water Gauge In. 3/8 3/8 3/8 3/8 1/2 1/2 1/2 1/2	Size Gauge Cock In. 3/8 3/8 3/8 3/8 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	Size Blow Off In. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]]]	e oke	Water Cap. Gals. 17 22 32 38 55 68 88 96 130 180	Ship. Wt. Lbs. 550 600 780 950 1100 1400 1850 1500 3300

12

11/4

230

280

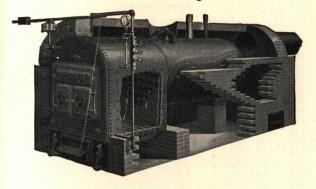
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5000

2 2

Prices upon application.

Kewanee Fire Box Boilers For Steam or Water Heating



Kewanee Boilers have amply high fire-boxes; plenty of room in the combustion chamber for air and plenty of room for the air and heat-giving gases to mix. That is just one reason why they are so easy on the coal bill.

Built in accordance with American Society Mechanical

Engineers Code of Boiler Rules.

The list price on all brick-set boilers includes Century rocking grates, fire-door and frame, ash-pit front with ash door and draft doors, the necessary soot doors, bearing plates with expansion rollers for supporting boilers upon brick pier at rear of boiler shell. Firing tools include hoe, poker, slice bar and tube scraper.

Rear flue clean-out doors are furnished with all smokeless

boilers, brick-set type.

With all Kewanee Smokeless Boilers, brick-set type, are included extra clean-out doors and frames for side or rear walls.

Back arch bars and manhole shield are furnished with all brick-set boilers. Special fire-brick tile, to fit header, is furnished with all smokeless boilers. With portable type boilers is furnished all castings for erecting the boilers, including cast iron ash pit base for the smaller sizes.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks, steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights, pulleys, chains and angle

No trimmings of any kind are furnished with water boilers. Sufficient handholes are provided for cleaning purposes, and in brick-set boilers 42 inches in diameter and larger, and in portable boilers 54 inches and larger, manholes are included.

No.	Capacity Steam Square Feet	Capacity Water Square Feet	Approxi- mate Weight Pounds	*Price Steam or Water Boiler Each	Price Extra for Steam Trimmings Each	Price Rear Flue Clean-out Doors and Frame Each
1	900	1500	2400	\$445.00	\$35.00	\$18.00
2	1050	1700	2700	500.00	35.00	18.00
3	1200	2000	2900	555.00	35.00	18.00
4	1400	2300	3300	610.00	35.00	22.00
5	1700	2800	3700	665.00	35.00	22.00
6	2000	3300	4200	720.00	40.00	22.00
8	2600	4300	5400	900.00	40.00	26.00
9	3000	5000	6000	980.00	50.00	26.00
10	3500	5800	6700	1050.00	50.00	32.00
11	4000	6600	7300	1150.00	80.00	32.00
12	4500	7400	8000	1250.00	80.00	32.00
13	5500	9100	10600	1570.00	95.00	38.00
14	6500	10700	11900	1760.00	95.00	38.00
15	7500	12400	14400	2200.00	125.00	46.00
16	8700	14400	16000	2425.00	125.00	46.00
17	10000	16500	17800	2750.00	150.00	60.00
18	11000	18200	19100	3100.00	160.00	60.00
19	12000	19800	21700	3400.00	160.00	70.00
20	14000	23100	23500	3700.00	160.00	70.00

*Maximum working pressure 15 pounds, also for water boiler. Castings and tools included.

Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

Openings in fire box for coil, \$4.00 net per boiler.

Kewanee Fire Box Boilers

For Steam and Water Heating

Specifications

		Length	Width	Length	Height		
	Diam.	Boiler	Fire	Fire	Fire	Heating	Grate
	Boiler	Over All	Box	Box	Box	Surface	Area
No.	In.	Feet	In.	In.	In.	Sq. Ft.	Feet
1	30	65/12	24	26	35	113	4.4
2	30	71/2	24	32	35	131	5.4
2 3	30	81/2	. 24	38	35	147	6.4
4	36	71/2	30	32	38	180	6.8
5	36	9	30	38	38	215	8.0
6	36	101/2	30	44	38	250	9.3
8	42	10	36	44	41	305	11.1
9	42	111/2	36	50	41	350	12.6
10	48	$10\frac{1}{2}$	42	44	. 44	368	12.9
11	48	12	42	50	44	420	14.7
12	48	$13\frac{1}{2}$	42	56	44	472	16.5
13	54	1311/12	48	56	49	560	18.8
14	54	161/2	. 48	62	49	673	20.8
15	60	$15\frac{1}{2}$	53	62	54	743	22.9
16	60	18	53	68	54	873	25.1
17	66	16	59	62	59	954	25.5
18	66	18	59	68	59	1080	28.0
19	72	16	65	68	64	1167	30.8
20	72	18	65	74	64	1329	33.5

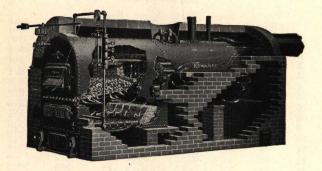
				Diam.	Diam.	Min. Ht.	
				Breeching	Stack	of Stack	Size
	Diam.	Diam.	Min. Ht.	Two	Two	Two	Steam
	Breeching	Stack	Stack	Boilers	Boilers	Boilers	Opening
No.	In.	In.	Ft.	In.	In.	Ft.	In.
1	12	12	40	18	18	45	4
2	14	12	40	20	18	45	4
2 3	16	14	40	22	20	45	5
.4	16	14	40	22	20	45	5
5	18	16	40	24	22	45	6
6	18	16	45	24	22	45	6
6 8	20	18	45	28	26	50	6
9	22	20	45	32	28	50	6
10	22	20	45	32	28	50	6
11	24	22	50	32	30	50	6
12	24	22	50	34	32	50	8
13	28	26	50	36	34	55	8
14	28	26	50	36	34	60	8
15	32	30	55	40	36	60	8
16	32	30	55	40	36	70	8
17	32	30	60	40	36	70	8
18	32	30	60	42	38	70	8
19	. 36	34	60	44	40	70	8
20	36	34	60	46	42	70	8

To all the						
				Height from	- The Land	
		Size	Height	Floor to	Number	Common
	Size	Safety	Water	Top of	of	Brick
	Return	Valve	Line	Brick Work	Common	for two
No.	In.	In.	In.	In.	Briek	Boilers
1	$2\frac{1}{2}$	11/4	52	70	1450	2450
2	$2\frac{1}{2}$	11/4	52	70	1600	2700
2 3	3	11/4	52	70	1750	2950
1	3	11/2	55	77	1900	3300
4 5	3		55	77	2150	3750
5	9	$1\frac{1}{2}$				
6	3	2	55	77	2400	4100
8	4	2	581/2	83	2650	4750
9	4	2	$58\frac{1}{2}$	83	2900	5350
10	4	2 2 2 2	61	90	3000	5400
11	4	21/2	61	90	3300	5900
12	5	21/2	61	90	3600	6450
13	5	21/2	66	96	5300	8350
14	5	3	66	96	5900	10350
	5	3	75	108	6500	11350
15		01/				
16	5	31/2	75	108	7200	12550
17	6	31/2	80	114	7200	12400
18	6	31/2	80	114	7700	13450
19	6	4	851/2	120	7700	13250
20	6	4	851/2	120	8200	13850
20	0	1	30/2	120	0200	10000

Smoke can be taken out at front if desired.

The Century Rocking Grate is furnished with these boilers. The grate is strong and durable and has an air space of 55 per cent. In boilers having fire box longer than 38 inches, the grate is made to rock in two sections each independent of the other.

Kewanee Smokeless Fire Box Boilers For Steam and Hot Water Heating



The sectional view above shows arrangement of double grates and long travel of gases. Recent tests of Kewanee Smokeless Boilers, made by a recognized boiler authority, prove that when burning soft coal, under conditions similar to those prevailing in most large buildings, their efficiency ranges from 73 to 81 per cent. The ordinary type heating boiler averages about 60 per cent efficiency.

The list price on all brick-set boilers includes Century rocking grates, fire-door and frame, ash-pit front with ash door and draft doors, the necessary soot doors, bearing plates with expansion rollers for supporting boilers upon brick pier at rear of boiler shell. Firing tools include hoe, poker, slice bar and tube scraper.

Rear flue clean-out doors are furnished with all smokeless boilers, brick-set type.

With all Kewanee Smokeless Boilers, brick-set type, are included clean-out doors and frames for side or rear walls.

Back arch bars and manhole shield are furnished with all brick-set boilers. Special fire-brick tile, to fit header, is furnished with all smokeless boilers. With portable type boilers are furnished all castings for erecting the boilers, including cast-iron ash pit base for the smaller sizes.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks; steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights, pulleys, chains, and angle valve.

No. 104	Capacity Steam Square Feet	Capacity Water Square Feet	Approxi- mate Weight Pounds	*Price Steam or Water Boiler Each	Price Extra for Steam Trimmings Each
104	1600 2000	2600 3300	4600 5100	\$835.00	\$40.00
106	2300	3800	5600	965.00	40.00 45.00
107	2600	4300	6200	1080.00	45.00
108	3100	5100	6800	1155.00	45.00
109	3600	5900	7300	1230.00	55.00
110	4000	6600	8500	1385.00	90.00
111	4700	7800	9100	1510.00	90.00
112	5500	9100	9800	1635.00	95.00
113	6500	10700	12500	1960.00	100.00
114	7500	12400	13900	2175.00	115.00
115	8500	14000	16400	2700.00	135.00
116	10000	16500	18000	2920.00	155.00
117	11500	19000	20400	3350.00	165.00
118	13000	21500	22100	3650.00	165.00
119	14000	23100	23800	4050.00	165.00
120	16000	26400	25800	4350.00	200.00

*Maximum working pressure of 15 pounds, also for water boilers. Castings and tools included.

Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

Openings in fire box for coil, \$4.00 net per boiler.

Kewanee Smokeless Fire Box Boilers For Steam and Hot Water Heating

Specifications

		Length	Width	Length		Area	
	Diam.	Boiler	Fire	Fire	Heating	Upper	Diam.
	Boiler	Over All	Box	Box	Surface	Grate	Breeching
No.	In.	Feet	In.	In.	Sq. Ft.	Sq. Ft.	In.
104	36	87/12	30	45	206	5.9	20
105	36	101/6	30	51	243	7.2	20
106	36	111/12	30	57	288	8.4	22
107	42	9 %	36	54	297	8.6	
108	42	111/3	36	60			22
109	42	125%			345	10.1	22
			36	66	393	11.4	24
110	48	$12\frac{1}{3}$	42	66	425	11.8	24
111	48	$13\frac{5}{6}$	42	72	480	13.2	27
112	48	151/3	42	78	535	15.0	27
113	54	153/4	48	78	628	17.1	30
114	54	181/4	48	84	741	19.1	30
115	60	175%	53	90	839	21.1	34
116	60	201/3	53	96	973	23.3	34
117	66	181/3	59	90	1064	23.5	36
118	66	201/3	59	96	1194		
119	72	101/				25.9	36
		181/3	65	96	1291	28.5	38
120	72	$20\frac{1}{3}$	65	102	1456	31.3	38

No.	Diam. Stack In.	Minimum Height of Stack Feet	Diam. Breechings Two Boilers In.	Diam. Stack Two Boilers In.	Min. Ht. Stack for Two Boilers In.	Size Steam Opening In.	Size Return In.
104	18	45	26	24	55	5	3
105	18	45	26	24	55	6	3
106	20	45	28	26	55	6	3
107	20	50	28	26	60	6	4
108	20	50	30	28	60	6	4
109	22	50	32	30	60	6	4
110	22	50	32	30	60	6	4
111	24	55	34	32	60	6	4
112	24	55	34	32	60	8	5
113	28	60	36	34	70	8	5
114	28	60	38	36	70	8	5
115	32	60	42	38	70	8	5
116	32	60	42	38	75	8	5
117	34	70	44	40	75	8	6
118	34	70	45	42	80	8	6
119	36	70	48	44	80	8	6
120	36	70	50	46	80	8	6

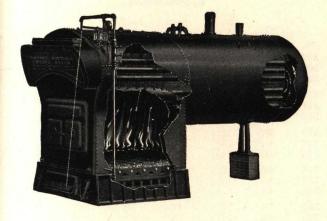
No.	Size Safety Valve In.	Height Water Line In.	Ht. from Floor to Top of Brickwork In.	Number of Common Brick	Number of Fire Brick	Common Brick for Two Boilers
104	1½	55	77	2200	85	3900
105	$1\frac{1}{2}$	55	77	2350	85	4100
106	2	55	77	2450	85	4300
107	2	581/2	83	2600	100	4500
108	2	581/2	83	2850	100	4950
109	2	581/2	83	3100	100	5350
110	2	61	90	3700	130	6500
111	$2\frac{1}{2}$	61	90	4000	130	7000
112	21/2	61	90	4300	130	7550
113	3	66	96	6000	155	10500
114	3	66	96	6600	155	11500
115	3	75	108	7350	215	12750
116	$3\frac{1}{2}$	75	108	7900	215	13700
117	$3\frac{1}{2}$	80	114	7800	250	13200
118	4	80	114	8300	250	14200
119	4	851/2	120	8700	310	15000
120	$2-2\frac{1}{2}$	851/2	120	9300	310	16000

Kewanee Boilers are built of steel according to the rules of construction adopted by the American Society of Mechanical Engineers.

Embodied in the design and construction of these boilers are the use of riveted joints, the staying of flat surfaces, arrangement of tubes with relation to each other and to the boiler shells allowing free circulation, together with ample steam space to insure dry steam and a steady water level; also handhole and manhole plates for cleaning and inspection. In fact every condition and advantage for the safe economic operation of a power boiler is exemplified in this product.

Kewanee Fire Box Boilers

Portable Type



With portable type boilers is furnished castings for erecting the boilers, including cast iron ash pit base for smaller sizes.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks, steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights, pulleys, chains and angle valve.

No trimmings of any kind are furnished with water boilers. Sufficient handholes are provided for cleaning purposes, and in brick-set boilers 42 inches in diameter and larger, and in portable boilers 54 inches and larger, manholes are included.

Kewanee Boilers are built of steel according to the rules of construction adopted by the American Society of Mechanical Engineers.

Embodied in the design and construction of these boilers are the use of riveted joints, the staying of flat surfaces, arrangement of tubes with relation to each other and to the boiler shells allowing free circulation, together with ample steam space to insure dry steam and a cleaning and inspection. In fact every condition and advantage for the safe economic operation of a heating boiler is exemplified in this

		Approx. Weight	*Price Steam or Water Boiler	Price Extra for Steam Trimmings
2000				\$40.00
				45.00
				45.00
3300	9000	0000	1320.00	45.00
4000	6600	9000	1485.00	85.00
4500	7400	9800	1595.00	85.00
5000	8300	10600	1705.00	85.00
5500	9100	13200	2100.00	105.00
6000	9900	14100	2300.00	105.00
7000	11600	15900	2650.00	105.00
8000	13200	17300	2850.00	125.00
9500	15700	20400	3400.00	150.00
11000	18200	22000	3640.00	160.00
13000	21500	24000	4100.00	200.00
15000	24800	25700	4400.00	200.00
17500	28500	28000	5300.00	220.00
20000	32000	31000	5780.00	220.00
25000	40000	37000	6870.00	230.00
28000	45000	40000	7370.00	230.00
	\$team 2500 2900 3500 4000 4500 5000 5500 6000 7000 8000 9500 11000 13000 17500 20000 25000	2500 4100 2900 4800 3500 5800 4000 6600 4500 7400 5000 8300 5500 9100 6000 9900 7000 11600 8000 13200 9500 15700 11000 18200 13000 21500 15000 24800 17500 28500 20000 32000 25000 40000	CAPACITY, SQUARE FEET Steam Weight Pounds 2500 4100 6900 2900 4800 7400 3500 5800 8300 4000 6600 9000 4500 7400 9800 5000 8300 10600 5500 9100 13200 6000 9900 14100 7000 11600 15900 8000 13200 17300 9500 15700 20400 11000 18200 22000 15000 24800 25700 17500 28500 28000 20000 32000 31000 25000 40000 37000	CAPACTTY, SQUARE FEET Steam Approx. Weight Pounds Steam or Water Boiler Each 2500 4100 6900 \$1115.00 2500 4800 7400 1200.00 3500 5800 8300 1320.00 4000 6600 9000 1485.00 4500 7400 9800 1595.00 5000 8300 10600 1705.00 5500 9100 13200 2100.00 6000 9900 14100 2300.00 7000 11600 15900 2650.00 8000 13200 17300 2850.00 9500 15700 20400 3400.00 13000 21500 24000 4100.00 15000 24800 25700 4400.00 17500 28500 28000 5300.00 20000 32000 31000 5780.00 25000 40000 37000 6870.00

Openings in fire box for coil \$4.00 per boiler net.

*Fifteen pounds maximum working pressure for steam or water boilers. Castings and tools included.

Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

Kewanee Fire Box Boilers

Portable Type

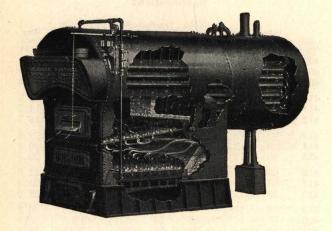
Specifications

No. 407 408 409	Diam. Boiler In. 48 48	Length Boiler Feet $8\frac{7}{12}$ $9\frac{1}{2}$ $11\frac{1}{12}$	Width Fire Box In. 36 36	Length Fire Box In. 38 44 50	Height Fire Box In. 41½ 41½ 41½ 41½	Heating Surface Sq. Ft. 278 310 373	Area Grate Sq.Ft. 9,6 11.1 12.6
410 411 412	54 54 54	$\begin{array}{c} 10 \\ 11\frac{1}{12} \\ 12\frac{1}{12} \end{array}$	42 42 42	44 50 56	44 44 44	416 465 515	12.9 14.7 16.5
413 414 415	60 60 60	$\begin{array}{c} -12\frac{5}{12} \\ 13\frac{7}{12} \\ 14\frac{1}{3} \end{array}$	48 48 53	56 62 56	49 49 49	565 626 676	$ \begin{array}{r} 18.8 \\ 20.8 \\ 20.7 \end{array} $
416 417 418	60 66 66	$16\frac{1}{6}$ $15\frac{3}{4}$ $17\frac{1}{3}$	53 59 59	62 62 68	49 52 52	778 929 1040	$22.9 \\ 25.5 \\ 28.0$
419 420 421	72 72 78	$\begin{array}{c} 15\frac{1}{12} \\ 17\frac{1}{2} \\ 17\frac{1}{12} \end{array}$	65 65 71	68 74 74	54½ 54½ 555	1168 1303 1514	30.8 33.5 36.6
422 423 424	78 84 84	$\begin{array}{c} 19\frac{1}{1}\frac{1}{2} \\ 20\frac{1}{12} \\ 22\frac{1}{12} \end{array}$	71 77 77	80 80 86	55 58 58	1711 2209 2427	$ \begin{array}{r} 39.6 \\ 42.9 \\ 46.1 \end{array} $

				Diam.	Diam.	Min. Ht.	
			Min.	Breeching	Stack	Stack	Size
	Diam.	Diam.	Height	Two	Two	Two	Steam
	Breeching	Stack	Stack	Boilers	Boilers	Boilers	Opening
No.	In.	In.	Feet	In,	In.	Feet	In.
407	22	20	50	30	28	60	6
408	22	20	50	30	28	60	6
409	22	20	55	30	28	65	6
							0
410	24	22	55	34	31	65	6
411	24	22	55	34	31	65	6
412	24	22	60	34	31	70	6
410	00						
413	26	24	60	38	34	70	8
414	26	24	60	38	34	70	8
415	28	26	65	40	36	75	8
416	28	26	65	40	36	75	0
417	30	28	65	44	40	75	8 8
418	32	30	70				0
410	34	30	10	46	42	80	8
419	34	32	70	50	46	80	8
420	34	32	70	50	46	80	8
421	36	34	80	52	48	90	8
422	36	34	90	52	48	100	8
423	40	38	90	56	54	100	10
424	42	40	100	56	54	110	10
			100	De la	1 July 2 - 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		TO

	100	10	00	01	110 10
No. 407 408 409	Size Return In. 4 4	Size Safety Valve In. 2 2 2	Height Water Line In. 71 71	Height Floor to Top of Shell In. 84 84 84	Distance Required to Open Rear Flue Doors In. 26 26 26
410	4	2	76	89	28
411	4	2	76	89	28
412	4	2	76	89	28
413	5	$\frac{21/2}{3}$	83	98	32
414	5		83	98	32
415	5		87	101	32
416	5	$\frac{3}{3\frac{1}{2}}$ $\frac{3}{3\frac{1}{2}}$	87	101	32
417	6		90	107	35
418	6		90	107	35
419	6	$\frac{4}{4}$ $2-2\frac{1}{2}$	96	113	37
420	6		96	113	37
421	6		97	115	40
422	6	2-3	97	115 121 121	40
423	6	2-3	105		43
424	6	2-3	105		43

Kewanee Smokeless Fire Box Boilers Portable Type



Kewanee Boilers are built of steel according to the rules of construction adopted by the American Society of Mechanical Engineers.

Embodied in the design and construction of these boilers are the use of riveted joints, the staying of flat surfaces, arrangement of tubes with relation to each other and to the boiler shells allowing free circulation, together with ample steam space to insure dry steam and a cleaning and inspection. In fact, every condition, and advantage for the cofe tion. In fact, every condition and advantage for the safe economic operation of a heating boiler is exemplified in this product.

Portable type boilers are furnished with castings for erecting the boilers, including cast iron ash pit base for smaller

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks, steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights, pulleys, chains, and angle

No trimmings of any kind are furnished with water boilers. Sufficient handholes are provided for cleaning purposes, and in brick-set boilers 42 inches in diameter and larger, and in portable boilers 54 inches and larger, manholes are included.

No. 307 308 309	CAPACITY, So Steam 3000 3500 4000	Water 5000 5800 6600	Approx. Weight Pounds 7800 8600 9300	*Price Steam or Water Boiler Each \$1410.00 1530.00 1650.00	Price Extra for Steam Trimming \$55.00 55.00 90.00
310	4500	7400	10400	1850.00	95.00
311	5000	8300	11100	1965.00	95.00
312	5500	9100	11900	2080.00	100.00
313	6000	$\begin{array}{c} 9900 \\ 10700 \\ 12400 \end{array}$	14500	2520.00	110.00
314	6500		15300	2730.00	110.00
315	7500		16900	3070.00	130.00
316	8500	14000	$ \begin{array}{c} 17800 \\ 20900 \\ 22900 \end{array} $	3270.00	130.00
317	10000	16500		3850.00	160.00
318	12000	19800		4080.00	170.00
319	14000	23100	25000	4500.00	170.00
320	16000	26400	26500	4800.00	200.00
321	18000	29700	28800	5450.00	225.00
322	20000	33000	30000	5800.00	225.00
323	25000	40000	37000	7400.00	235.00
324	30000	48000	43000	8400.00	235.00

Openings in firebox for coil, \$4.00 per boiler net.

*Fifteen pounds maximum working pressure for steam or water boilers. Castings and tools included.

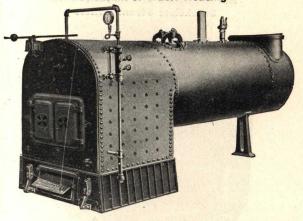
Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

Kewanee Smokeless Fire Box Boilers

Portable Type Specifications

		Length Boiler	Width	Length		
	Diam. Boiler	Over All	Fire Box	Fire Box	Heating Surface	Area Upper Grate
No. 307	In.	Feet	In.	In.	Sq. Ft.	Sq. Ft.
308	48 48	$9\frac{1}{12}$ $10\frac{5}{12}$	36 36	54 60	297 352	8.8
309	48	$11\frac{5}{12}$	36	66	391	10.1 11.4
310	54	1011	42	72	446	12.9
311 312	54 54	1111	42	78	496	14.7
313	60	$12\frac{11}{12}$	42	84	546	16.5
314	60	$12^{\frac{1}{1}\frac{1}{2}}_{13^{\frac{1}{1}\frac{1}{2}}}$	48 48	78 84	592 643	$\frac{17.1}{18.5}$
315	60	1514	53	90	721	20
316	60	161/4	53	96	773	21.4
317 318	66 66	$15\frac{3}{4}$ $17\frac{3}{4}$	59 59	90	912	23.5
319	72			96	1053	25.9
320	72	$16\frac{7}{12} \\ 17\frac{11}{12}$	65 65	$\frac{96}{102}$	$\frac{1204}{1316}$	$\frac{28.5}{29.9}$
321	78	17 5	71	102	1458	32.6
322	78	18 5	71	108	1549	34.6
323 324	84 84	$20\frac{1}{12}$	77	114	2074	41.7
324	04	$24\frac{1}{12}$	77	120	2629	44.8
			Min.	Diam. Breeching	Diam. Stack	Min. Ht. Stack
	Diam. Breeching	Diam. Stack	Height Stack	Two Boilers	Two Boilers	Two
No.	In.	In.	Feet	In.	In.	Boilers Feet
307 308	$\begin{array}{c} 22 \\ 22 \end{array}$	$\frac{20}{20}$	50 55	30 30	28	60
309	22	20	55	30	28 28	65 65
310	24	22	55	34	31	65
311 312	24	22	55	34	31	65
	24	22	60	34	31	70
313 314	26 26	24 24	60 60	38 38	34	70
315	28	26	65	40	34 36	70 75
316	28	26	65	40	36	75
317 318	30 32	28	65	44	40	75
		30	70	46	42	80
319 320	34 34	$\frac{32}{32}$	70 70	50 50	46 46	80
321	36	34	80	52	48	80 90
322	36	34	90	52	48	100
323 324	40	38	90	56	54	100
324	42	40	100	56	54	110
	Size		Size	Height	Height Floor	Dis. Reqd. to Open
	Steam Opening	Size Return	Safety Valve	Water	to Top of Shell	Rear Flue
No.	In.	In.	In.	In.	In.	Doors In.
307 308	6	4	2	71	84	26
309	6	4	$\frac{2}{2}$	71 71	84 84	26 26
310	6	4	21/2	76	89	28
311 312	6	4	$2\frac{1}{2}$ $2\frac{1}{2}$ $2\frac{1}{2}$	76	89	28
313	6	4		76	89	28
314	8	5 5 5	3	83 83	98 98	32 32
315	8	5	3 3 3	87	101	32
316	8 8	5 6	$3\frac{1}{2}$	87	101	32
317 318	8 8	6	$3\frac{1}{2}$	90	107	35
319			4	90	107	35
320	8 8	6	$\frac{4}{4}$ 2-2	96 96	113 113	37 37
321	8	6	2-2	97	115	40
322	8	6	2-3	97	115	40
323 324	10	6	2-3	105	121	43
324	10	6	2-3_	105	121	43

Kewanee Fire Box Boilers K Straight Draft Portable Boiler For Steam or Water Heating



With portable type boilers are furnished castings for erecting the boilers, including cast iron ash pit base for smaller sizes.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks, steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights pulleys, chains and angle valve.

No trimmings of any kind are furnished with water boilers.

			-				Tilce	Add	
			Size	Size	Size		with	Extra for	
	CAP	ACITY	Flow	Return	Safety	Approx.	Tools	Steam	
		. FT.	Open.	Open.	Valve	Wt.	only	Trimmings	
No.	Steam	Water	In.	In.	In.	Lbs.	Each	Each	
1K	850	1400	4	$2\frac{1}{2}$	11/4	2900	\$550.00	\$35.00	
2K	1000	1600	4	21/2	11/4	3200	600.00	35.00	
3K	1150	1900	5	3	11/4	3500	665.00	35.00	
4 K	1300	2200	5	3	11/2	3900	725.00	35.00	
5K	1600	2600	6	3	11/2	4400	790.00	35.00	
6 K	1900	3100	6	3	2	4900	850.00	40.00	
8K	2450	4100	6	4	2	6300	1050.00	40.00	
9 K	2850	4700	6	4	2	6900	1136.00	50.00	
10 K	3300	5500	6	4	2	7600	1215.00	50.00	
11K	3800	6300	6	4	2	8300	1320.00	80.00	
12K	4300	7000	8	5	2	9000	1425.00	80.00	
13K	5200	8600	8	5	2	11100	1705.00	95.00	
14K	6200	10100	8	5	3	12400	1895.00	95.00	
15K	7100	11800	8	5	3	15000	2355.00	125.00	
16K	8200	13700	8	5	3	16600	2580.00	125.00	
17K	9500	15700	8	6	31/2	17900	2875.00	150.00	
18K	10400	17300	8	6	31/2	19200	3225.00	160.00	
19K	11400	18800	8	6	4	21900	3550.00	160.00	
20 K	13300	21900	8	6	4	23700	3850.00	160.00	
*1	T	1				15	1 6 1		

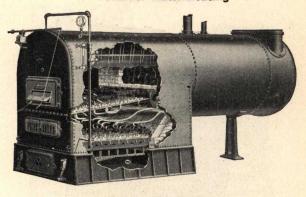
*Maximum working pressure of 15 pounds, for steam and water boilers. Castings and tools included.

Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

Openings in fire box for coil. \$4.00 list per boiler

OI	enings	m m	e box	for coll,	\$4.00	list pe	r boll	er.	Height
			GTH	Heat.	Area	Diam.		Height	Floor to
	Diam.	Ov		Surf.	of	Brech-	Diam.	Water	top of
	Boiler		LL _	Sq.	Grate	ing	Stack	Line	Boiler
No.	In.	Ft.	In.	Ft.	Sq. Ft.	In.	In.	In.	In.
1K	30	7	10	83	4.4	12	12	52	59
2K	30	8	10	93	5.4	14	12	52	59
3 K	30	9	10	104	6.4	16	14	52	59
4 K	36	8	10	139	6.8	16	14	55	65
5K	36	10	4	164	8.0	18	16	55	65
6 K	36	11	10	190	9.3	18	16	55	65
8 K	42	11	4	241	11.1	20	18	581/2	71
9K	42	12	10	275	12.6	22	20	581/2	71
10 K	48	11	10	298	12.9	22	20	61	77
11K	48	13	4	338	14.7	24	22	61	77
12 K	48	14	10	378	16.5	24	22	61	77
13K	54	15	4	447	18.8	28	26	66	83
14K	54	17	10	537	20.8	28	26	66	83
15K	60	17	0	603	22.9	32	30	75	93
16K	60	19	6	708	25.1	32	30	75	93
17K	66	17	6	791	25.5	32	30	80	99
18K	66	19	6	896	28.0	32	30	80	99
19K	72	17	6	992	30.8	36	34	851/2	105
20 K	72	19	6	1129	33.5	36	34	851/2	105

Kewanee Fire Box Boilers Type K Smokeless Portable Boilers For Steam or Water Heating



The sectional view above shows arrangement of double grates and long travel of gases. Recent tests of Kewanee Smokeless Boilers, made by a recognized boiler authority, prove that when burning soft coal, under conditions similar to those prevailing in most large buildings, their efficiency ranges from 73 to 81 per cent. The ordinary type heating boiler averages about 60 per cent efficiency.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks; steam gauge with syphon and cock, pop safety valve, and Kewanee Automatic Sylphon Draft Regulator with lever, weights, pulleys, chains, and angle valve.

			C1:	O'	a.		*Price	Price
	Сарас	T. mv	Size	Size	Size Safety	Approx.	with Tools	Extra for Steam
	Sq. I				. Valve	Wt.	only	Trimmings
No.	Steam	Water	In.	In.	In.	Lbs.	Each	Each
104K	1500	2450	5	3	11/2	5000	\$935.00	\$40.00
105K	1900	3100	6	3	11/2	5600	1000.00	40.00
106K	2200	3600	6	3	2	6100	1075.00	45.00
107K	2500	4100		4	2	6900	1210.00	45.00
108K	2900	4800	6	4	2	7500	1290.00	45.00
109K	3400	5600	6	4	2	8100	1370.00	55.00
110K	3800	6300	6	4	2	9200	1530.00	90.00
111K	4400	7400	6	4	21/2	9900	1660.00	90.00
112K	5200	8600	8	5	21/2	10600	1790.00	95.00
113K	6200	10100	8	5	3	12600	2070.00	100.00
114K	7100	11800	8	5	3	14000	2280.00	115.00
115K	8100	13300	8	5	3	16500	2820.00	135.00
116K	9500	15700	8	5	31/2	18100	3040.00	155.00
117K	10900	18000	8	6	31/2	20500	3475.00	165.00
118K	12300	20400	8	6	4	22200	3775.00	165.00
119K	13300	21900	8	6	4	24000	4200.00	165.00
120K	15200	25000	8	6	2-21/2	26000	4500.00	200.00
The state of the state of					-			

*Maximum working pressure of 15 pounds, for steam and

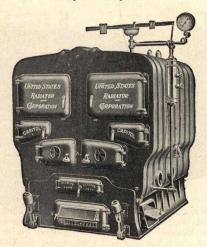
water boilers. Castings and tools included.

Prices for steam boilers for working pressure more than 15 pounds but not exceeding 100 pounds will be furnished upon application.

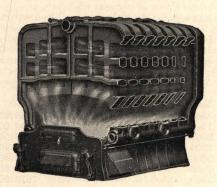
Ope	nings	in fire	box	for coil,	\$4.00	list per	· boil	er	
P									Height
	Diam	Leng		Heat.	Area	Diam.	D'	Height	Floor to
	Boiler	Boil Over		Surf.	Upper	Breech-			Top of
N.	In.			Sq.	Grate		Stack	Line	Boiler
No.		Ft.	In.	Ft.	Sq. Ft.	In.	In.	In.	In.
104K	36	9	11	157	5.9	20	18	55	65
105K	36	11	5	185	7.2	20	18	55	65
106K	36	12	11	220	8.4	22	20	55	65
107K	42	11	2	234	8.6	22	20	581/2	71
108K	42	12	8	271	10.1	22	20	581/2	71
109K	42	14	2	308	11.4	24	22	581/2	71
110K	48	13	8	338	11.8	24	22	61	77
111K	48	15	2	381	13.2	27	24	61	77
112K	48	16	8	425	15.0	27	24	61	77
113K	54	17	1	500	17.1	30	28	66	83
114K	54	19	7	590	19.1	30	28	66	83
115K	60	19	4	677	21.1	34	32	75	93
116K	60	21	10	787	23.3	34	32	75	93
117K	66	19	10	879	23.5	36	34	80	99
118K	66	21	10	987	25.9	. 36	34	80	99
119K	72	19	10	1090	28.5	38	36	851/2	105
120K	72	21	10	1230	31.3	38	36	851/2	105

Capitol Cast Iron Boilers

Capitol—Square



Steam Series



Water Series

Capitol Winchester-Round



Steam Series



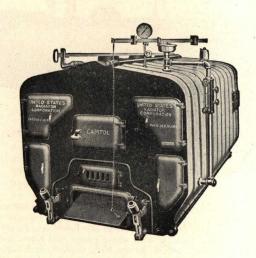
Water Series

Full information and prices given on application.

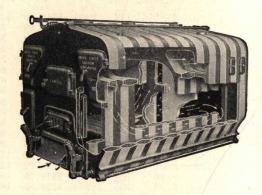
Special catalogue on round, square, and smokeless boilers, also hot water supply boilers sent upon request.

Capitol Boilers

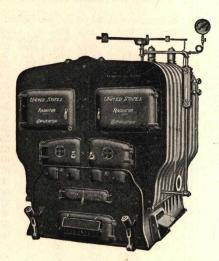
No. 400 Series and 40-inch Series Smokeless Steam Boilers



No. 400 Series and 40-inch Series Smokeless Water Boilers



No. 500 and 50-inch Series Smokeless Boilers



Ideal Type I-A Heat Machines



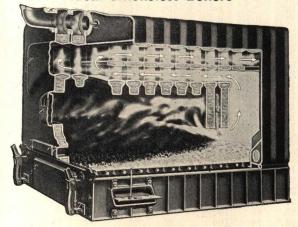
These boilers are covered with metallic jacket and have extremely low water line adapted for low cellars. Burns hard or soft coal, gas or oil fuel.

Ideal Water Tube Boilers



Made in 23, 29, 36, 48 and 79-in. sizes. Burns hard or soft coal, gas or oil fuels.

Ideal Smokeless Boilers



These boilers conform with all known anti-smoke ordinances as they burn all grades of soft coal smokelessly. They are equipped with Ideal Smoke Oxidizer that will last as long as the boiler. Made in 29, 36, 48 and 79-inch.

Special catalogue sent upon application.

Ideal Arco Round Boilers

Steam Boiler Capacities-350 to 1700 Square Feet Water Boiler Capacities-600 to 2825 Square Feet





Steam

Ideal cast iron heating boilers are constructed on the unit or sectional plan, which permits of the adding of sections in the event of increased capacity being required. This con-struction facilitates the moving of the boilers by shipping them knocked down, which permits their admission into buildings through ordinary doors or windows.

Ideal Boilers are made with capacities for both steam and water, ranging from the smallest cottage to large buildings of any description.

For burning hard and soft coal, gas and oil fuel. Special catalogue and quotations sent upon application.

Ideal Arcola Heaters

PATENTED JANUARY 18, 1921. OTHER PATENT PENDING.





The Ideal Arcola Heater places the comfort and fuel economy of hot water heating within the reach of owners of cellarless bungalows, small city and farm cottages, one-story stores

and office buildings, small country school-houses, village fire houses, police stations, etc. It is neat and compact.

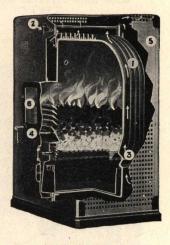
It is peculiarly adapted for use in those two and three-story flat buildings and combination store and flat buildings where each tenant prefers to run his own heating outfit to suit his family's needs or preference as to exact degree of warmth, and without going to a cellar to attend the fire.

No.	No. Sec- tions	Rating Sq. Ft.	App. Ship. Wt., Lbs.	No.	No. Sec- tions	Rating	App. Ship.
4-H	4	200	445	7-H	7	500	Wt., Lbs. 655
5 -H	5	300	515	8-H	8	600	725
6 -H	6	400	400	9-H	9	700	795

Prices and booklet furnished upon application.

Ideal Vecto House Heaters





A compact, self-contained, beautiful heating unit has been perfected which warms, not one room, but a whole home, and yet consumes no more coal than is now used by old-fashioned methods to heat one room. This is the Ideal Vecto Heater. Its warmth is clean and healthful. It requires no basement

for installation; it is an ornament in any room. For more or less heat, it is only necessary to turn a handle. Compact and self-contained, it may be moved like furniture. It burns either coal or wood.

In principle and construction, the Ideal Vecto Heater is altogether different from old-fashioned heating devices. It is a scientific application of nature's way of spreading warmth. That is why it is so almost unbelievably efficient as to warm an entire small home while consuming only the same amount of fuel, or less, than is ordinarily used to heat one room.

The operation of the Ideal Vecto Heater is based on the

natural law of gravitation. Air is drawn in at the base, and brought into contact with a very extensive, scientifically designed heating surface; being warmed, it flows upward and outward, carrying its warmth to every corner of the home. The process is continuous. A gentle suffusion of even, comfortable warmth fills every room.

The great secret of the Ideal Vecto Heater lies in its extraordinarily large and scientifically designed heating surface, the temperature of which is controlled by the simple turning of a handle conveniently placed in the front of the heater.

Its fire-lights shine clearly through the window glow-panels in front. These glow-panels are made of a chemically prepared glass mixture that does not flake or break under fire temperatures. The cover of the Vecto Heater is sheet stell, finished with a highly lustrous gray enamel. This finish is vitreous enamel, baked on at a very high temperature, so that it will not be affected by heat.

For more heat, or less, it is only necessary to turn the control handle conveniently placed in the front. This handle works on a graduated dial. So simple it is that a child could perfectly and safely operate it.

When the control handle is turned for any desired heat output, the movement is transferred to the draft damper at the rear base. Just the right amount of air is admitted to the fire to keep it at the required rate of combustion. No more fuel is burned than is necessary to maintain the home in solid comfort at all times.

Its inside is cast in one single, seamless piece.

There are no joints or crevices whatever through which any gas or dust might escape into the home, or through which excess air might leak into the heater.

The large front door, the Lock-Safe Fire Door is another special feature. When this door is closed, the fire is effectively sealed. It is impossible, then, to force it in any unsafe or wasteful manner.

Made in one size only for buildings not to exceed 8000 cubic

Height, 48 inches. Width, 22 inches. Length, 21 inches. Price each

Corto Radiators



The series of columns that constitute this radiator make it unparalleled for resisting high internal pressures. The internal area of its tubes in relation to the heating surface has been reduced to about one-quarter of that now generally in use. Not only has this invention greatly increased the pressure-resisting ability of the Corto Radiator, but in reducing the internal area the water or steam contents are likewise decreased.

The water content of the Corto is equal to three-fourths of a pound per square foot of heating surface, or about one-half the water content of the average radiator; this assures quick and positive venting for all kinds of steam and vapor systems, while in water installations it provides a rapid circulation, causing the radiator to respond more quickly to the immediate heating needs.

Irrespective of height, a series of six sizes ranging from two to four and one-half feet of heating area have been produced, and the surface of each additional size will be increased by one-half square foot, thus abandoning the cumbersome method of increasing heating surface by irregular fractions.

For Steam and Water

——HEATING SURFACE—SQUARE FEET—

		38-in.	34½-in.	31-in.	27-in.	23-in.	19½ in
Number	%T41	Height	Height	Height	Height	Height	Height
Sections	*Length Inches	4½ Sq. Ft. per Sec.	per Sec.	3½ Sq. Ft. per Sec.	per Sec.	2½ Sq. Ft. per Sec.	2 Sq. Ft per Sec
2	4	9	8	7	-	(=)	
3	6	131/2			6	5	4
		13/2	12	101/2	9	71/2	6
4	8	18	16	14	12	10	8
5	10	$\frac{22\frac{1}{2}}{2}$	20	171/2	15	$12\frac{1}{2}$	10
6	12	27	24	21	/ 18	15	12
7	14	311/2	28	241/2	21	171/2	14
8	16	36	32	28	24	20	16
9	18	401/2	36	311/2	27	$22\frac{1}{2}$	18
10	20	45	40	35	30	25	20
11	22	491/2	44	381/2	33	271/2	22
12	24	54	48	42	36	30	24
13	26	581/2	52	451/2	39	$32\frac{1}{2}$	26
14	28	63	56	49	42	35	28
. 15	30	671/2	60	521/2	45	371/2	30
16	32	72	64	56	48	40	32
17	34	761/2	68	591/2	51	421/2	34
18	36	81	72	63	54	45	36
19	38	851/2	76	661/2	57	471/2	38
20	40	90	80	70	60	50	40
21	42	941/2	84	731/2	63	$52\frac{1}{2}$	42
22	44	99	88	77	66	55	44
23	46	1031/2	92	801/2	69		
24	48	103/2	96	00/2		571/2	46
				84	72	60	48
25	50	$112\frac{1}{2}$	100	871/2	75	$62\frac{1}{2}$	50

*Each section, 2 inches long. Add 1/2-inch to length of radiator for each bushing.

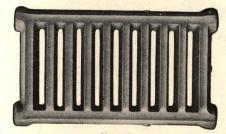
TAPPINGS.—11/2 inches top and bottom and bushed for water or steam.

CONNECTIONS.—Extra heavy right and left threaded nipples.

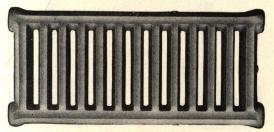
Triton Wall Radiators

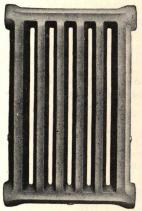


No. 5A



No. 7A





No. 7B

Triton Wall Radiators should always be assembled with bars vertical, whether sections are built in stacks or tiers. Nos. 5A, 7A and 9A are used when

sections are to be assembled end to end, and Nos. 7B and 9B when assembled side by side.

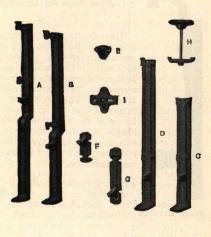
Section No.	Height Inches	Length or Width Inches	Thickness Inches	Thickness with Brackets Inches	Heating Surface Sq. Ft.
5A	141/8	161/2	3	31/2	5
7A	141/8	227/8	3	31/2	7
9A	141/8	2914	3	31/2	9
7 B	227/8	141/8	3	31/2	7
9 B	291/4	141/8	3	31/2	9

Wall Radiator Brackets

Brackets B to fit over a 91/2-inch high baseboard for sup-porting Style B wall radiators.

Brackets A to fit over baseboard for supporting Style A wall radiators.

No. B- 5½ B- 7½ B- 9½ A- 6 A- 8 A-10 A-12 A-16	Ht. Floor to Center of Tap In. 51/2 71/2 91/2 6 8 10 12 14 16	Base-board In. 91/2 91/2 91/2 51/2 51/2 91/2
A-16	16	111/2



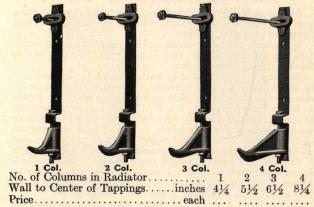
Brackets D are straight right angle brackets without offset, for supporting Style B radiators. Distance from floor to center at tapping, $5\frac{1}{2}$ inches.

Brackets C are for Style A radiators. Distance from floor to center of tapping, $5\frac{1}{2}$ inches.

Brackets F, G, E and I are screwed to wall, baseboard and wainscoting. F and G are bottom supports for all sizes. E and I, top guides to hold radiator in place, should always be used with F and G brackets.

Ceiling brackets H for supporting radiator from ceilings, made of cast plate 3% inches in diameter, to be screwed to ceiling joists by four screws. Bolt furnished gives a distance of from 3½ to 5 inches from bottom of radiator to ceiling. Other lengths on special order.

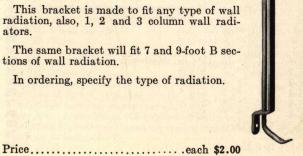
Adjustable Concealed Radiator Brackets



Grafton Adjustable Wall Radiator **Brackets**

This bracket is made to fit any type of wall radiation, also, 1, 2 and 3 column wall radi-

The same bracket will fit 7 and 9-foot B sections of wall radiation.

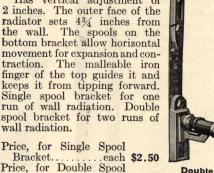


Wall Radiator Brackets

New Arco Adjustable

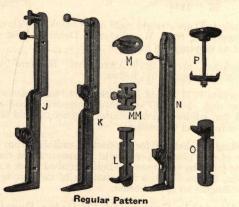
PATENTED

Has vertical adjustment of 2 inches. The outer face of the radiator sets 434 inches from the wall. The spools on the bottom bracket allow horizontal movement for expansion and contraction. The malleable iron finger of the top guides it and keeps it from tipping forward. Single spool bracket for one run of wall radiation. Double spool bracket for two runs of wall radiation.



Bracket.....each Price, for Double Spool Bracket......each 4.50 Spool Bracket

Single Spool Bracket



J brackets fit over a 91/2-inch high baseboard for supporting wall radiators Nos. 7B and 9B. One 1/4-inch bolt and button furnished with each bracket.

K brackets to fit over baseboard for supporting wall radiators Nos. 5A, 7A and 9A. One 1/4-inch stove bolt and button

furnished with each bracket.

Brackets L, O, MM and M are screwed to wall baseboard or wainscoting. L and O brackets are bottom supports for all sizes of wall radiators. MM and M brackets are top guides to hold radiator in place. L and MM brackets are concealed; O and M brackets are not. One MM or M bracket should be used with each L or O bracket. L, O and MM brackets are slotted for four, and the M bracket for two wood screws, one 14-inch stove bolt and button furnished with each MM bracket.

Bracket N is a straight right angle bracket, without offset,

bracket N is a straight right angle bracket, without offset, for supporting all sizes of wall radiators; height from floor to center of end tapping bosses, 5½ inches. One ¼-inch stove bolt and button with each N Bracket.

Ceiling bracket P is made of cast plate, 3½-inch diameter and screwed to ceiling joists by four screws. The bolt furnished gives a distance of 3½ inches to 5 inches from bottom of radiators to siling. of radiator to ceiling. Other length bolts furnished on special

Note.—In ordering buttons and stove bolts separately state for which bracket.

No.	В	[eigl	ht fro	m Floo	r to	Cen	ter st '	of Tap	Sup	pl	y or	R	eti	ırı	E	Inc	l o	f			Price Each
J-1	91/2	-in														-90					\$.80
J-2	71/2	"					4								•		•		•	•	.75
J-3	51/2	"							-										•		.70
K-1	16	. "	for	111/2	-in.	B	ase	bo	ar	d							•	•	•	•	.88
K-2	14	"	"	91/9	"			"													.84
K-3	12	"	"	71/2	"			"													.80
K-4	10	"	"	51/2	"																.76
K-5	8	"	"	31/2	"														170	100	.72
K-6	6	"	"	11/2	"																.68
L, M,	MM,	0.													•		•	•	•	•	.20
N														i	•	•		•	•	•	.75
P-31/2	to 5 E	xt								1										•	.50

Peerless Radiator Brackets

Made of Malleable Iron

Made for 1, 2, 3, and 4-column radiators for water, steam or vapor heating. Holds securely with only one stud bolt or lag screw with expansion bolt, thereby greatly reducing the cost



Single Column



ne Col. Bracket No.	Dist. from Wall Inches	Price Each	Two Col. Bracket No.	Dist. from Wall Inches	Price Each
102	2	\$1.25	202	2	\$1.40
103	3	1.30	203	3	1.50
104	4	1.40	204	4	1.60
105	5	1.50	205	5	1 70



Three Column



Four Column

Price

per Set

\$.60

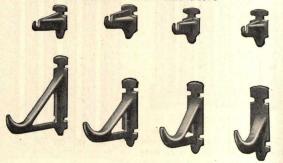
1.00

1.00

1.20

Three Col. Bracket No.	Dist. from Wall Inches	Price Each	Four Col. Bracket No.	Dist. from Wall Inches	Price Each
302	2	\$1.60	402	2	\$1.90
303	3	1.65	403	3	2.20
304	4	1.70	404	4	2.50
305	5	1.80	405	5	2.80

Concealed Radiator Brackets For Column Wall Radiators



Number of Columns	1	2	3	4
Vall to Center of Tappings inches	3	41/16	$5\frac{7}{32}$	613/16

Concealed Radiator Brackets



Kewanee Type D Garbage Burners and Water Heaters



This burner is easily operated. The fire is started on the lower or coal grates—for garbage destruction, the fire need not be heavy—fresh garbage is thrown into the upper chamber in quantities to completely fill it if necessary.

The smoke and burning gases pass around through a by-pass to the smoke exit, destroying the odors of the smouldering refuse. The by-pass causes the damp, or even wet, garbage to be quickly dried, so that it burns readily.

Each tube has a brass clean-out plug at the ends in the outer shell of the burner.

The burner is built to stand a working pressure of 125 pounds per square inch.

To burn garbage and refuse see that fire is burning clear, open the damper in the smoke pipe wide, close the fire door and lower draft door, throw garbage and refuse in upper chamber only and keep the by-pass free from refuse. If there is an odor from the top of the stack the fire is not burning clear and there is not enough draft.

To maintain fire do not carry the fire above the bottom of the fire door. Remove ashes from ash-pit every time fire is shaken, otherwise grates will be burned. Bank fires at night.

Suggestions for facilitating combustion: drain liquids off the garbage; line garbage cans with old newspapers and destroy these papers with the garbage.

To clean burner remove brass plugs on sides of burner, all handhole plates, scrape all interior surfaces free from mud and sediment. Flush out entire heater with water. Do this at least five times a year; more frequently if necessary.

No.	Capacity per Hour 50° Raise Gal.	Capacity Garbage Chamber One Charge Bushels	Ht. Over All In.	Size Floor Space Required In.	Ht., to Bottom of Garbage Door In.	Size Garbage Door In.
36	800	4	56	35x35	31	16x16
37	1000	5	56	35x41	31	16x16
38	1200	7	56	35x47	31	16x16
39	1500	9	56	41x53	31	16x16
40	1800	12	56	41x59	31	16x16
	Fire Size,	Inches—Coal	Size Flow and Return Flanges	Diam. Smoke Pipe	Approx. Ship. Wt.	Price Complete
No.	Door	Grates	In.	In.	Pounds	Each
36	16x10	24x24	21/2	10	2100	\$560.00
37	16x10	24x30	21/2	10	2300	610.00
38	16x10	24x36	21/2	10	2500	660.00
39	16x10	30x42	3	12	3000	780.00
40	16x10	30x48	3	12	3300	870,00

Furnished complete with tools.

Kewanee Type A Garbage Burner and Water Heater



This burner is built on the same general principles as the type D, but is round and of smaller capacity.

Cheap soft coal can be used to operate these burners, and they require little attention to keep them going.

For the best results, locate the garbage burner as near to the chimney flue as possible. Smoke opening and chimney should be the same size as the smoke outlet in the burner.

Burner should be as close to the tank as possible, and the bottom of the tank should be as high as the top of the garbage burner, if possible.

Do not reduce size of pipes connecting tank and heater. Pipes of the same sizes as the openings should be used to insure perfect circulation.

A manhole in the storage tank is recommended to remove sediment.

Garbage burner should have an independent smoke opening in chimney.

Maximum working pressure, 100	pounds	s per s	quare in	ich.
No	30	31	32	33
Cap., per Hourgallons	200	300	400	600
" Chamber Chargebushels	1	2	3	4
Height Over Allinches	58	64	64	68
Diameter Floor Space "	22	25	30	36
Height to Bottom of Front Garbage Door "	33	37	37	39
Dimen. Garbage Door "	7x8	7x8	7x8	9x12
" Fire Doors "	7x8	7x8	7x8	9x12
Diam. Lower Grates "	12	16	20	24
Size Flow and Return Flanges "	11/2	2	2	2
Diam. Smoke Fipe "	6	8	8	81/2
Approx. Ship. Wtspounds	600	800	1000	1500
Price, Complete with Tools each !	\$190.00	230.00	260.00	
Ratings based on raising tempera				

Tabasco Tank Heaters All Steel—Self-Feed and Surface Burners





Sectional

	Heating			Size of	Equiv.				
(Capacity	Size of	Total	Flow and	l Diam.	MAGAZ	INE FEED	SURFACE	BURNER
. 1	per Hour	Heater	Height	Return	Smoke	Weight	Price	Weight	Price
No.	Gallons	Inches	Inches	Inches	Pipe, In.	Pounds	Each	Pounds	Each
17	130	17x30	52	2-11/2	6	455	\$130.00	400 \$	125.00
18		17x36	57	2-11/2	6	480	135.00	420	130.00
21	200	21x30		$2-1\frac{1}{2}$	7	590	160.00	520	150.00
22	250	21x36	59	$2-1\frac{1}{2}$	7	625	165.00	550	155.00
25	300	25x36	59	2-2	81/4	900	195.00	780	185.00
26	350	25x42	65	2-2	81/4	935	200.00	810	190.00
27	400	25x48	71	2-2	81/4	965	205.00	840	195.00
30	500	30x42		$2-2\frac{1}{2}$		1625	250.00	1500	235.00
31	600	30x48		$2-2\frac{1}{2}$		1700	260.00	1600	245.00
32	700	30x54		$2-2\frac{1}{2}$		1780	270.00		255.00
	Magaz	ine fee	d he	tore e	hinned	unlas	a aunfoo	a hum	o'ma ama

Magazine feed heaters shipped, unless surface burners are specified in order. Provided with brass cleanout plug.

Built for heating water for apartment buildings, barber shops, etc., from 130 to 700 gallons of water every hour.

Heating capacity is based on raising the water 50 degrees Fahrenheit in one hour.

King Laundry Tank Heaters



Inside diameter fire pot at top, 11¾ inches; outside diameter fire pot at top, 14½ inches; height of fire pot, 8 inches. Diameter of grate, 9½ inches. Pipe collar, 6 inches. Heating capacity per hour, 100 gallons.

No	80A	480A
Style	2-Hole	4-Hole
10pinches	$19\frac{1}{4}x22$	22½x24½
Height Over All		241/2
Weightpounds	120	140
Priceeach	\$20.40	26.00

Excelso Water Heaters



Can be easily connected to any new or old installation. Connected on the outside of steam or vapor boilers. Eliminates the fire pot coil and insures a constant supply of domestic hot water all during the heating season at an even temperature.

*Heating water below water line of steam or vapor boiler temperature rises 100 degrees in three hours.

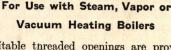
†Heating water with live steam, temperature rises 100 degrees in three hours at 5 pounds pressure.

CAPACITY, GALS.

‡Formerly Nos. 16, 17 and 18.

			Shell	Coil	*Below	†With	
	Length	Diam.	Openings	Openings	Water	Live	Price
No.	Inches	In.	Inches	Inches	Line	Steam	Each
Jr.	81/2	5	1	3/4	30	45	\$12.50
11	101/2	5	1	3/	30	50	30.00
12	14	5	1	3/4	45	75	40.00
13	111/2	61/2	11/2	1	60	100	50.00
14	15	61/2	11/2	1	90	150	60.00
15	191/2	61/2	11/2	1	120	200	70.00
25	$12\frac{1}{2}$	9	2	11/2	160	250	120.00
26	15	9	2	11/2	200	300	150.00
27	19	9	2	11/2	300	450	180.00
128	231/4	9	3	11/2	400	600	210.00
35	21	133/4	3	21/2	600	900	310.00
36	25	13¾	3	21/2	800	1200	400.00

Domestic Taco Water Heaters



Suitable threaded openings are provided for all pipe connections. To be installed below the water line. These heaters are built with the coil on the cover and tested to 1200 pounds pressure. Coil and cover can be removed for cleaning without breaking the coil connection.

No.	Range Boiler Gallons	to Range Boiler In.	Boiler Con. In.	Shipping Weight Pounds	Price Each
30	Up to 30	3/4	1	11	\$15.00
1	<i>a</i> " 40	3/4	1	14	20.00
2	" " 80	1	11/4	24	30.00
3	" " 160	11/4	2	52	50.00

Water Con. Heating

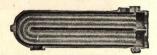
Flo-line Taco Water Heaters For Use with Steam or Hot Water Heating Boilers

The water supply is heated by its circulation through the copper coil, which is in the flow-line from the steam or water heating boiler. To be piped to range boiler installed above Taco Heater.

Recommended for use in connection with hot water heating plants only where provision is made for use of gas or coal heater on wash day and at such other times when extremely hot water is required.



Apartment Taco Water Heaters



Especially constructed for use with steam or vapor-heating plants in apartments and other large buildings. It is connected below the water line at the side of the heating boiler, for connection to tanks 320 to 960-gallon capacity.

	Below Water	SIZE With Live	Length	Diam- eter	Conne	CTIONS	Ship- ping Wt.	Price
No.	Line	Steam	Inches	Inches	Tank	Boiler	Lbs.	Each
4	320	600	263/8	8	2	2	85	\$100.00
5	640	1200	387/16	113/4	21/2	21/2	195	200.00
6	960	1800	403/16	131/2	3	3	265	300.00

Universal Taco Water Heaters



jections to hold ashes or clinkers. Does not interfere with efficient firing. Nos, 6-9-30 and 6-9-60 are for round boilers with coil openings 6, 9 or more inches center to center.

No. 9-30

No. 6-9-30

to burn out around the

heater. It has no pro-

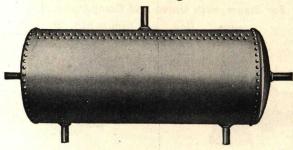
Extra bottom tapping accommodates distances greater than 9 inches or can be used as cleanout. All tappings are 1 inch.

Nos. 9-30 and 9-60 are made with stude extending through boiler wall and are furnished with washers and locknuts. For round boilers with coil openings 9 inches center to center. Threaded for 1-inch pipe connections.

Nos. 3-30 and 3-60 are for square sectional boilers having cored openings 3 inches center to center. All tappings are for 1-inch iron pipe. Also for use with hot air furnaces.

	Cap.	Shipping Weight	PRICE	EACH
No.	Gals.	Pounds	Malleable	Brass
6-9-30	30	10	\$8.00	\$20.00
6-9-60	60	17	14.00	35.00
9-30	30	10	8.00	
9-60	60	17	14.00	
3-30	30	10	8.00	
3-60	60	17	14.00	

Hot Water Storage Tanks



For vertical or horizontal installation.

Heads are flanged and dished. All openings have welded threaded flanges, insuring perfectly straight threads.

Price includes standard tappings as shown. Additional number of special tappings, manholes, handholes and coils are extras and quoted upon application.

Standard, Single Riveted

Tested to a hydrostatic pressure of 100 pounds and guaranteed for 65 pounds working pressure per square inch.

	S	IZE	Regu- lar	App. Ship.			Sr	Z.E.	Regu-	App. Ship.	
Cap.	Diam	.Lgth.	Open.	Wt.	Price	Cap.				Wt.	Price
Gal.	In.	Ft.	In.	Lbs.	Each	Gal.	In.	Ft.	In.	Lbs.	Each
66	20	4	11/2	270	\$94.00	315	36	6	2	700	\$206.00
85	20	5	11/2	310	104.00	365	36	7	2	780	241.00
100	24	4	11/2	320	109.00	420	36	8	2	870	256.00
120	24	5	11/2	380	123.00	525	36	10	2	1030	293.00
140	24	6	11/2	440	134.00	430	42	6	2	890	276.00
150	30	4	2	430	143.00	500	42	7	2	980	310.00
180	30	5	2	500	158.00	575	42	8	2	1070	333.00
220	30	6	2	555	173.00	720	42	10	2	1250	375.00
250	30	7	2	630	196.00	865	42	12		1430	415.00
295	30	8	2	700	211.00	1000	42	14		1620	468.00

Extra Heavy, Double Riveted

All extra heavy storage tanks are tested to a hydrostatic pressure of 150 pounds and are guaranteed for a working pressure of 100 pounds per square inch.

	neş	gu-		Regu-				
	Size la	r		Size lar				
Cap.	Diam. Lgth. Op		Price	Cap. Diam.Lgth. Open. Wt. Price				
Gal.	In. Ft. In	Lbs.	Each	Gal. In. Ft. In. Lbs. Each				
120	$24 5 1\frac{1}{2}$		\$137.00	500 42 7 2 1260 \$390.00				
140	24 6 1 1		155.00	575 42 8 2 1400 420.00				
180	30 5 2	520	182.00	720 42 10 2 1660 480.00				
220	30 6 2	590	198.00	865 42 12 2 1910 540.00				
250	30 7 2	660	224.00	1000 42 14 2 2180 614.00				
295	30 8 2	720	242.00	750 48 8 3 1690 510.00				
315	36 6 2	920	264.00	940 48 10 3 1960 580.00				
365	36 7 2	1030	300.00	1130 48 12 3 2250 650.00				
420	36 8 2	1160	328.00	1300 48 14 3 2570 715.00				
525	36 10 2	1380	385.00	1500 48 16 3 2860 800.00				
430	42 6 2	1140	345.00	1700 48 18 3 3150 870.00				
			C	oils				

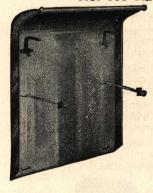
						DIIS					
TA In. x	NK	No. of Pipes	Size Coil In,	PRICE, Black Pipe	Each Galv. Pipe	TA	OF NK x Ft.	No. of Pipes	Size Coil In.	PRICE, Black Pipe	Each Galv. Pipe
20	4	4	1	\$29.00	\$35.00	36	6	4	11/2	\$51.00	\$62.00
20	5	4	1	30.50	38.50	36	7	4	11	54.00	66.00
24	4	4	14	35.50	42.00	36	8	4	11	57.50	70.00
24	5	4	14	37.00	45.00	36	10	4	11	64.00	78.00
24	6	4	14	38.50	48.00	42	6	4	11	51.00	62.00
30	4	4	14	35.50	42.00	42	7	4	11/2	54.50	66.00
30	5	4	14	37.00	45.00	42	8	4	11	57.50	70.00
30	6	4	14	38.50	48.00	42	10	4	11	64.00	78.00
30	7	4	14	40.00	51.00	42	12	4	11	70.50	85.00
30	8	.4	$1\frac{1}{4}$	41.50	54.00	42	14	4	11/2	77.00	93.00

All sizes can be furnished in Brass Pipe (I. P. S.).

Prices upon application.

		L ce	Phra	coroni.					40 000
D . I	Extra	s for	Sta	andard	and	Extra	Heavy	Tank	s
Price,	2 -	-inch	Flan	ge				.each	\$8.00
"	$2\frac{1}{2}$	"	"					. "	8.00
	3	"	"					. "	9.00
"	$3\frac{1}{2}$	"	"						9.00
	4	"	"					. "	10.00
"	Han	adhole	s in	Head.				"	8.00
"				Shell.				"	8.00
"	Mai	nholes	"	Head.				"	30.00
"		"	"	Shell .				"	45.00

No. 906 Radiator Shields



Can be fitted to any make of radiator, as the brackets can be shifted for varying con-structions. Does not interfere with the operation of the radiator valves.

Trimmings furnished: Two cast iron top brackets, two adjustable hangers, with threaded rod, knob and cast plates, four loops, and bolts.

Bottom loops on shield keep shield proper distance from the radiator. No hangers are furnished for bottom loops. No. 26 gauge material regularly furnished. Shield sets 7 inches off the floor.

Regular Pattern-For Radiators 5 Sections or Less

			Ppro	E, EACH-	ALL DESCRIPTION OF THE PARTY OF	the state of the s
Height Radiator Inches 26	Black	Galv.	Brass with Galv. Backs	All Brass	Black Painted or Bronzed	Galv. Painted or Bronzed
	\$6.00	\$7.20	\$34.00	\$36.00	\$8.00	\$9.20
32 and 38	6.40	7.60	34.80	38.00	8.40	9.60
44	6.80	8.00	35.20	39.20	8.80	10.00
	For	Radiato	rs Over			10.00

Add for Each Additional Section. \$.20 .24 . Add \$4.00 to above prices for

Black and Galvanized Vapor Pan.

Add \$12.00 to list for Brass

Vapor Pan.

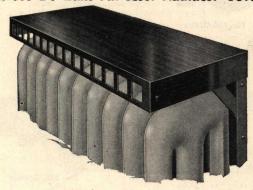
In ordering indicate — (1) whether single, two, three, four column or window radiation; (2) name and height of radiator; (3) number and length of sections.

Additional net charge for



Vapor Pan Withdrawn

No. 908 De Luxe All-steel Radiator Covers



Air currents passing over radiators carry the dust and dirt always present in the air. If these currents are allowed to follow their usual course over radiators, this dust and dirt will eventually be deposited on walls, drapes and ceilings. The De-Luxe Cover prevents this as it is so constructed with back shield and deflecting plate that the currents of air are deflected out into the room.

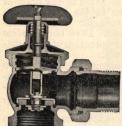
The cover is constructed from full furniture steel with a 2-inch flange on all four sides. To assist radiation, the front of the cover is opened in large squares, 1½ inches diameter. The corners are electric and acetylene welded so the cover is one solid piece of heavy smooth steel. Covers are made to fit any

type of floor or wall radiator.

Covers are finished, according to specifications, to match the furniture of the wood trim of the room. The enamel wood finishes applied to the cover are smooth, beautifully grained and lasting. Mahogany, either light, dark or brown, and walnut are particularly attractive, as is French grey enamel, a soft toned finish that will harmonize well with any room done in neutral shades.

Price, No. 908 for Radiator 30 Inches Long or Less. each \$20.00 for Each Additional Inch in Length

Arco Packless Radiator Valves



These valves cannot leak.

They are permanently tight against the passage of water, steam or even air.

The Leakproof feature is a special molded ring with metal core held under compression by spring.

The non-breaking composition handle will not work loose. One smooth turn opens or closes valve.

Has composition disc of highest

For hot water a circulating hole is drilled.

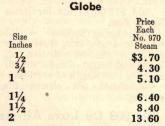
Angle

Size Inches	Price Each No. 988 Steam
1/2	\$3.70
3/4	4.30
1	5.10
11/ ₄	6.40
11/ ₂	8.40
2	13.60
For hot wester and an Ma	0001

No. 988 Angle

For hot water order No. 988A.





No. 970 Globe

For hot water order No. 970A.

	Corner	
~	PRICE	
Size Inches	No. 955 R. H. Corner	No. 960 L. H. Corner
1/2	\$4.10	\$4.10
3/4	4.75	4.75
1	5.60	5.60
11/4	7.05	7.05
11/2	9.25	9.25
2	15.00	15.00



For hot water order No. 955A or 960A.

No. 955, Corner

No. 968 Fractional



The fractional type Arco Packless Valve is the same as the steam type except with lever handle and dial equipment and the calibrating cone and disc.

The calibrating cone is shaped to give accurate control of vapor flow.

The maximum port opening can be permanently adjusted after installation. The stop fastened to the dial can be moved to the required position by loosening cap.

		THE RESERVE THE PARTY OF THE PA	0 1
Size	Price	Size	Price
Inches	Each	Inches	Each
1/2	\$3.70	1	\$5.10
1/2 3/4	4.30	11/4	6.40

Nos. 72 and 57 Detroit Radiator Valves For Steam, with Union and Composition Disc



Has non-breakable, non-heat conducting round handle, with a permanent black hard-rubber finish. Body is in satin finish with nickel trimmings. All threads right hand.

	No. 72, Angle			No. 57,	Globe
,	Price Each	Size In.	Price Each	Size In.	Price Each
	\$3.70	1	\$5.10	11/2	\$8.40
	4.30	11/4	6.40	9	13.60

Nos. 32 and 37 Detroit Radiator Valves For Steam, with Union and Composition Disc



3/4

Equipped with a new kind of non-breakable, non-heat conducting round handle, with a permanent black hard-rubber finish. Body is in satin finish with nickel trim-mings. All threads right hand.

	-			
			3	
		17		
	en	40		
5				

3.80						-	
No	. 32, R. H. Corner				No.	37, L. H.	Corner
o.	PRICE, EACH		PRICE,			PRICE,	
	R. H. L. H. Corner Corner	Size In.	R. H. Corner	L. H. Corner	Size	R. H.	L. H.
		111.		(CONTRACTOR)	In.	Corner	Corner
72	\$4.10 \$4.10 4.75 4.75	11/		\$5.60	11/2	\$9.25	
/4	4.75 4.75	1 1/4	7.05	7.05	2	15.00	15.00

Detroit Radiator Valves



Quick-opening For Hot Water Angle Pattern-With Union and Composition Disc

Has an elliptical plate set at a 45-degree angle attached to stem. By revolving stem half turn to left valve is opened; half turn to right closes it.

	PRICE,	PRICE, EACH			
Size	No. 101 Round	No. 106 Lever	Size	No. 101 Round	No. 106
Inches	Handle	Handle	Inches	Handle	Lever Handle
1/2 3/4	\$3.25	\$3.25	11/4	\$5.75	\$5.75
3/4	3.70	3.70	11/2	7.30	7.30
1	4.50	4.50	2	12.00	12.00



No. 373 Detroit Radiator Gate Valves

For Steam or Hot Water, with Union

Size In.	Price Each	Size In.	Price Each
1/2 3/4	\$3.65	1 ¹ / ₄ 1 ¹ / ₂	\$6.60
3/4	4.25		9.00
1	5.20	2	12.80

No. 132 Detroit Union Elbows

Size	Price	Size	Price
In.	Each	In.	Each
1/2 3/.	\$1.75	11/4	\$3.30
3/4	2.00	11/2	4.25
1	2.50	2	7.20

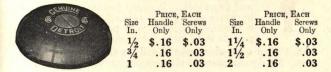


Lock and Shield Radiator Valves

Size	Price	Size	Price
Valve Inches	Each	Valve Inches	Each
1/2	N. P Keys	11/4	N. P. Keys
37	\$.50 .50	11/2	\$.50 .50
1	.50	2	.50

Lock and shield equipment can be furnished with any regular pattern of radiator valves at additional charge.

Composition Valve Handles



No. 1 Penberthy Hydraulic Vacuum Generators

For Return Pipe Steam Heating Systems



The prime function of this generator is to pull the air from the system. Its operation is simple and semi-auton is simple and semi-auton is connected to the lever. This opens a valve which allows the water from city mains to pass through the generator. This water, passing through the generator and into sewer, also pulls the air from the system, thereby establishing a vacuum throughout the entire heating system.

As there is now no air to obstruct the passages, the steam rushes in to fill the vacancy caused by the removal of air, with the result that every radiator is instantly filled with steam. As the steam passes through the radiators, the instantaneous change in temperature causes the valve on the outlet end of the radiator to close automatically thus holding steam on the radiator.

The generator shuts off automatically when proper vacuum is established. When you want to accelerate your heating, you turn it on. Otherwise it is not in operation, and consequently, it is not running maintenance expense, as it would if it were wholly automatic.

Water Connection. Discharge Connection Suction Connection	inches	3/8
Discharge Connection	.inches	3/4
Price No. 1	each	\$75.00

Compression Radiator Air Valves No. 4 with Loose Key Key



Daire N. 4 1/1 1 Mishel plated	1	0 00
Price, No. 4, ½-inch, Nickel-plated	eacu	\$.0U
" Fretus Wasse for No 4	"	10

Expansion Air Valves

No. 5561



For venting coils on high pressure in connection with dry kilns, laundries, etc.

Price, %-inch......each \$1.60

Ideal Quick Vents



For venting mains, long runs of pipe, indirect stacks, drop risers, etc., where a large amount of air must be expelled quickly. Will benefit all low pressure steam jobs by venting entire piping system and thereby heating radiators quicker under less pressure. Operates by volatile liquid contained within expansible member which has diaphragm at top and bottom giving full movement of stem. No adjustment. All metal. Very sensitive. Will last indefinitely. Does not close against water.

Venting port, $\frac{3}{32}$ -inch diameter. Valve connection, $\frac{3}{4}$ -inch pipe thread. Can be furnished with $\frac{3}{6}$ -inch thread. Nickeled finish. Shipping weight each, $\frac{1}{3}$ pound.

Price, No. 815, 3/4 or No. 820, 3/8-inch.....each \$3.00

No. 500 Ideal Airid Siphon Valves

The valve operates thermostatically by the evaporation of a volatile liquid contained within the float forcing outward the diaphragm which forms the bottom of the float, raising the pin and instantly closing the valve. A slight cooling relieves the internal pressure and opens the valve.

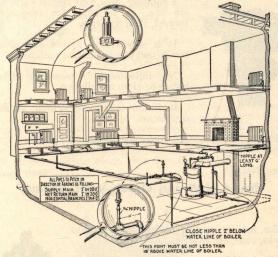
Under flooded radiator conditions the valve vents without leak because the large separating chamber A allows separation of the air and water. The seat at B requires no guide for the pin, thus eliminating the water pocket around the

eliminating the water pocket around the seat which causes sputtering and leaking. Area C allows the valve to drain perfectly without a by-pass from the stem to the air space at the top of the shell.

Price, No. 500each \$1.35

Hoffman Air Valves

Typical Installation of Nos. 2 and 6 Valves On One-Pipe Steam Heating Plants Only



To enjoy to the maximum heating comfort and economy it is necessary only to equip the radiators all over the house with No. 2 Hoffman Air and Vacuum valves, and if there are one or more air valves on the piping in the cellar these must also be changed. The No. 6 Hoffman Vacuum Valve is best suited for this purpose as it allows those radiators furthest away from the boiler to heat up just as quickly as the nearest ones.

The use of even a single No. 2 Hoffman Vacuum Valve on the worst radiator will enable that particular radiator to stay warm after steam pressure has diminished, but with air leaking in at other points the last word in heating comfort and economy will not be received unless every valve is a No. 2 Hoffman.

No. 1 Hoffman Siphon Air **Valves**



This valve is designed for low pressure gravity systems of the one pipe Through its use all air is vented from the radiator without loss of steam, maximum heating efficiency is assured and leakage from water-logged radiators prevented. After contact of water with valve the syphon drains all water from the valve and venting occurs without the slightest spit even if the radiator is under pressure.

Maximum guaranteed operating pressure, 10 pounds.

Has 1/8-inch radiator connection.

Price, No. 1. each No. 2 Hoffman Syphon Air and Vacuum

Valves

This valve is similar to the No. 1, but in addition, when the radiator is once freed from air, return of air through the vent port is prevented.

Normally air vent port is wide open until steam comes in contact with the heat sensitive fluid in the float, expanding the flexible diaphragm, raising the float and closing vent port. Air check prevents return of air until the vacuum formed in the valve permits atmospheric pressure, acting through chamber port to force diaphragm upward. raising the float and doubly closing the vent port.

With this valve an ordinary one-pipe steam system may be changed into vacuum type. Maximum guaranteed operating pressure, 10 pounds. Radiator connection, ½ inch. Price, No. 2

No. 3 Hoffman Air Line Valves



A compact, well constructed valve for air line, or as they are frequently termed, Paul Systems.

It is sensitive in action and closes the instant steam fills the radiator.

No adjustment is necessary either before or after installation.

Radiator connection, 1/8 inch; air line connection, 1/4 inch.

Maximum guaranteed operating pressure, 10 pounds.

Price, No. 3 each

No. 4 Hoffman Quick Vent Valves

For use in venting mains, risers, vento stacks, coils, etc.

All air is freely vented through a 1/8-inch vent port without steam loss, but valve does not close against water.

Standard connection, 34 inch.

Supplied with 1/4-inch connection when so

Maximum guaranteed operating pressure, 10 pounds.

Prico, No. 4. each

No. 5 Hoffman Quick Vent Float Air Valves

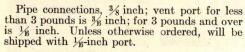


This valve installed on the end of return mains in one-pipe gravity systems causes steam to first flow to end of main, then into radiators at a uniform rate, so that radiators distant from boiler will receive their supply of steam as quickly as those close to boiler. For quick venting where water may be a factor. Especially well adapted for use in venting ends of steam mains, ends of dry return mains, indirect radiators, Blast, Vento or Aerofin Stacks, hot-water generators, low pressure feed water heaters, dryers erators, low pressure leed water neaters, dryers and drums, etc. It closes instantly when steam or water comes into contact with float. Pipe connection, $\frac{3}{8}$ inch; vent port for less than 3 pounds is $\frac{3}{6}$ inch; for 3 pounds and over is $\frac{1}{16}$ inch. Unless otherwise ordered will be shipped with $\frac{1}{16}$ -inch.

port. Maximum guaranteed operating pressure, 10 pounds. Price, No. 5 each

No. 6 Hoffman Quick Vent Float Air and Vacuum Valves

The No. 6 has a diaphragm in the base of the valve which holds the vent port closed when venting ceases and prevents intake of air through the valve port. The valve is used for venting return mains of small vapor-vacuum systems or wherever return of air to the system must be prevented.



Maximum guaranteed operating pressure, 10

Price, No. 6 each

No. 10 Hoffman Vapor Valves



Used for venting the return mains in vapor systems or for other conditions where a large venting capacity is required.

For preventing the escape of water the valve has a large buoyant float which has a double valve, one disc controlling a 34-inch vent port and the other an auxiliary port 36 inch in diameter. When water recedes from the valve and pressure is maintained the 3/6-inch port is opened first and as the air pressure is relieved, the 3/4inch port opens and full venting area is obtained. The thermostat is located above the float chamber and controls the vent port upon contact with steam.

Maximum guaranteed operating pressure, 15 pounds. Pipe connection, 34 inch.

Price, No. 10, Nickel-plated All Over.....each

No. 11 Hoffman Vapor Vacuum Valves

The No. 11 vapor vacuum valve is similar in construction to the No. 10 valve with the addition of a check valve on the vent port which prevents the return of air to the system through vent port.

It is widely used for venting the return mains of vapor-vacuum systems or where the return of air to the system after having been vented is not desirable.

Maximum guaranteed operating pressure, 15 pounds.

Has 3/4-inch connection.

Price, No. 11each



No. 7 Hoffman Adjustable Modulating **Valves**



For use in vapor or vapor vacuum systems. Its chief feature is the easy and accurate setting of the valve port to fit radiators of various sizes. Is made in one size, 34 inch only, having a range of adjustment up to 200 square feet of radiation.

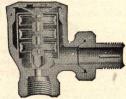
Adjustment is simple; loosen

locknut; turn valve handle until proper number of graduations are visible on the dial plate; then tighten locknut. The valve handle may then be set to admit sufficient steam to heat a quarter, half, three quarters or entire radiator.

Regularly supplied with lever handle. It can be furnished with wood wheel, lock shield, closed top, without extra charge. Price, No. 7, with 3/4-Inch Connectionseach ...

Nos. 8 and 9 Hoffman Return Line Valves

These valves or radiator traps relieve air and condensation from radiators in vapor or vapor vacuum systems without steam loss. Installed on systems where steam is supplied through a reducing valve, proper trap operation is assured, should the reducing valve fail to function, because of their wide operating pressure range.



Maximum guaranteed operating pressure, 50 pounds.
No. 8 valve is furnished in angle, straightway and right
and left-hand offset patterns. Capacity is 200 square feet of direct cast iron radiation.

No. 9 valve is made in angle and straightway patterns only. Capacity is 600 square feet of direct cast iron radiation.

Price, No. 8, ½-Inch. each
Price, No. 9, ¾-Inch. each
...

No. 17 Hoffman Radiator Valves



For vapor or vacuum installations where modulation is not required. Made in ³4-inch size angle pattern only; suitable for radiators up to 200 square feet. May be turned from open to shut position or vice versa with one turn of handle. Action is free, with little friction due to construction of disc holder. Stem is not threaded but is squared on end, fitting into a square

sleeve in lead screw, latter being approximately 1½ inches in diameter. The lead screw is a hard drawn brass shell with quadruple rolled threads that engage in the valve body. Regularly supplied with lever handle. Wood wheel handles, lock shields, closed tops, extended stems, or chain pulls can be furnished.

Price, No. 17 each

No. 18 Hoffman Return Line Valves

For radiator units not over 100 square feet direct cast iron radiation and pressure not exceeding 15 pounds. Thermostat consists of one chamber made by two diaphragms separated by a space ring. In center of bottom diaphragm valve pin is attached, j oi n t be i n g expanded and made tight. Thermostat is held in its cage by a pin at-



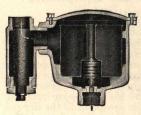
tached to top diaphragm.

Thermostats are interchangeable without requiring adjustment and will operate with the same degree of sensitiveness.

Made in ½-inch size only, and furnished in angle, straightway, right and left-hand offset patterns.

Price, No. 18each

No. 12 Hoffman Blast Traps



Especially adapted for drainradiators, blast, Vento or Aero-fin stacks, unit heaters, ends of steam mains and risers, driers and drums, hot-water generators and laundry machinery. Where the operating pressure is not in excess of 30 pounds this valve will take care of large amounts of con-

densation. In functioning it distinguishes between steam, heated air and water of condensation, giving free discharge of air and condensation.

It relieves condensation immediately upon its arrival at the trap regardless of the water temperature. Combined with the float is a thermostatic member which overcomes the chief

difficulty with float traps by automatically relieving air as well as condensation from the system.

The normal position of the valve is open and this is held until steam reaches it when closure takes place. If small quantities of condensation flow to the trap the thermostat functions and relieves the water, but if larger amounts of condensation beyond the capacity of the thermostat reach the densation, beyond the capacity of the thermostat reach the trap, the float lifts the thermostat from its seat and maximum capacity is obtained.

Nominal Capacities

Pressure per Sq. In.						
lbs.	1/2	1	2	3	4	5
Capacity per Hr.						
lbs.	800	1000	1500	1800	2000	2500
*Capacity Radia-						
	0000	1000	0000	=000	0000	40000

tion..... sq. ft. 3200 4000 6000 7200 8000 10000 *Based on ¼ pound condensation per hour per square foot. Maximum operating pressure, 30 pounds. Capacities for over 5 pounds pressure on application.

With strainer: Inlet connection, 1 inch; outlet, 1 inch. Without strainer: Inlet, 11/4 inches; outlet, 1 inch. If without Strainer, Deduct....each

Hoffman Ther-Kompo Gages



Measures pressure up to 30 pounds vacuum to 30 inches and temperature to 225 degrees. Pressure is registered in ounces up to 5 pounds. Vacuum is recorded in half inches up to 10 inches.

Temperature of steam or vapor is indicated on the thermometer to correspond with the pressure or vacuum.

Used in Hoffman Controlled Heat installations or for one pipe gravity systems equipped with Hoffman No. 2 Siphon Air

and Vacuum Valves, it indicates when the plant is operated at temperatures above and below 212 degrees. Pipe connection is 1/2 inch and length of thermometer well such that gage may be installed in a 1-inch standard cast iron reducing tee. Do not use a gage siphon with the Ther-Kompo Gage on a low pressure heating plant, (less than 15 pounds).each

Hoffman Vapor Damper Regulators



Has compensating or balancing plate, and is practically frictionless; it is sensitive and operates on slight changes in pressure. It is automatic in operation and after it has once been set at the desired pressure requires no attention. It controls the dampers, and responds immediately, accelerating or retarding the fire to meet the change in demand for steam from the radiators. It will fit any type boiler. Equipped with lever, weights, chain and pulleys.

Price each . . .

Hoffman Controlled Heat Equipment



Differential Loops

The differential loop is an extremely simple, efficient device, which prevents water from backing up in the return main and at the same time maintains a constant differential pressure between steam and return mains whenever the pressure exceeds a predetermined amount.

Standard No. 1 and No. 2 loops are intended for systems where the low point in the dry return is not less than 24 inches above boiler water line. No. 3 and No. 4 loops require a minimum differential of 30 inches.

Price Loop Each No. Loop Radiation Radiation Sq. Ft. Sq. Ft. 1 1 to 2000 3 3501 to 7500 2 2001 " 3500 4 7501 " 15000

Hoffman Differential Loops are sold as a part of Controlled Heat Equipment. Prices on Loops, or Basement Specialties, for use otherwise, are quoted on application, and sold only when we approve plan of installation.

Radiator and Basement Specialties

Special attention is directed to the simple methods of figuring on vapor or vapor vacuum specialties.

It is only necessary to obtain data as to the number of radiators, the total amount of radiation and information as to whether steam mains or risers are dripped through return line valves. Then refer to the following table.

Radiator Specialties

Hoffman adjustable modulating valve, 3/4-inch capacity up to 200 square feet direct radiation.

Hoffman return line valve, 1/2-inch capacity up to 200 square feet direct radiation.

Price.....per radiator

Basement Specialties

For installations up to 1000 square feet direct radiation: 2 No. 18 Hoffman Return Line Valves, for venting Steam Mains into dry returns

1 Hoffman Differential Loop

No. 6 Hoffman Float Air and Vacuum Valve

1 Hoffman Damper Regulator 1 Hoffman Ther-Kompo Gage

..... per set

For installations up to 2000 square feet direct radiation: 2 No. 8 Hoffman Return Line Valves, for venting Steam Mains into dry return

No. 1 Hoffman Differential Loop No. 11 Hoffman Vapor Vacuum Valve

Hoffman Damper Regulator 1 Hoffman Ther-Kompo Gage

..... per set Class B

For installations of 2001 to 3500 square feet direct radiation: 3 No. 8 Hoffman Return Line Valves, for venting Steam Mains into dry return

1 No. 2 Hoffman Differential Loop 1 No. 11 Hoffman Vapor Vacuum Valve

1 Hoffman Damper Regulator

1 Hoffman Ther-Kompo Gage

.....per set

Class C For installations of 3501 to 7500 square feet direct radiation: 4 No. 8 Hoffman Return Line Valves, for venting Steam Mains into dry return

1 No. 3 Hoffman Differential Loop 1 No. 11 Hoffman Vapor Vacuum Valve

1 Hoffman Damper Regulator

1 Hoffman Ther-Kompo Gage

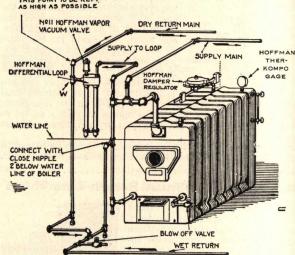
Where 50-foot risers or ends of 100-foot steam mains are dripped through return line valves, add \$6.00 for each No. 8 or \$8.00 for each No. 9 valve. For longer risers or steam mains add \$30.00 for each No. 12 valve.

Where more than one boiler is used, add \$37.00 per boiler

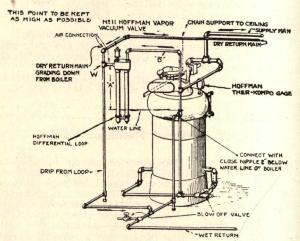
for additional specialties required.

Special or larger installations than indicated above quoted on application.

Hoffman Controlled Heat Equipment Typical Installation



Typical Method of Installing Hoffman Equipment on Sectional Boilers



Typical Method of Installing Hoffman Equipment on **Round Boilers**

Hoffman Controlled Heat has established an entirely new

standard of heating efficiency.

It is now installed in hundreds of buildings, from the smallest homes to the largest skyscrapers, and is working with a flexibility of control, simplicity of operation and economy of fuel hitherto unknown in the heating world.

The most efficient gravity return steam heating system is that one which eliminates air to the greatest degree—prevents its return, and also provides means for promptly returning the water of condensation to the boiler.

Steam is the most efficient and economical heat conveyor known today, and when properly controlled is the last word in heating comfort.

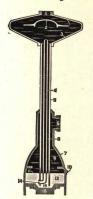
No more radiation is required in Hoffman Controlled Heat than for an ordinary steam installation, and no larger boiler grate area, or heating surface is required than used for steam or hot water installations.

Controlled heat is low pressure gravity steam heat, measured in ounces instead of pounds, with two pipe lines; one a steam flow line, the other a return air and condensation line.

Hoffman devices transform what would be an ordinary steam heating system into Hoffman Controlled Heat and are six in number, as follows: No. 7 Hoffman Adjustable Modulating Valve; No. 8 Hoffman Return Line Valve No. 11 Hoffman Vapor Vacuum Valve; Hoffman Differential Loop; Hoffman Differential Loop; Hoffman Differential Loop; man Damper Regulator and the Hoffman Ther-Kompo Gage.

Prices upon application.

Honeywell Heat Generators



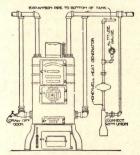


Position of Mercury and Water When Generator is Producing no Pressure

Position and Action of Mercury and Water When Generator is in Complete Operation Producing 10 Pounds Pressure

These generators are designed to meet the demand for a device to quicken the circulation in hot water heating jobs.

When connected to the expansion pipe of an ordinary gravity plant, this generator seals the circuit and permits the generation of a slight pressure up to 10 pounds, at which point it relieves itself through the operation of a mercury seal, eliminating any element of danger.



Showing Generator Attached to Hot Water Boiler

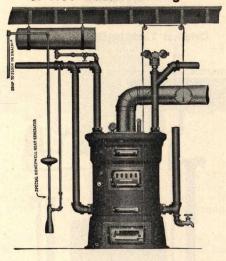
The pressure created by this generator will remedy any unsatisfactory job of hot water heating where the radiation is insufficient, the piping too small for gravity, the circulation sluggish, causing large fuel consumption, or where the water boils easily from quick firing, providing, of course, the boiler is large enough to supply the heat. It greatly improves jobs which contain long horizontal mains, or where the radiation is all on the first floor.

In new work it permits a reduction in radiation, and smaller piping as advocated in the Honeywell system, the system of low cost and high efficiency. It is positive and automatic, is sold under the strongest guarantee, will last a lifetime, and cannot get out of order.

No.	For Radiation Square Feet	Size Inlet Inches	Size Outlet Inches	Price Each
. 1	1200	3/4	1	\$25.00
2	2500	1	1	35.00
3	3500	11/4	11/4	50.00
4	10000	11/4	$\frac{1\frac{1}{4}}{1\frac{1}{4}}$	65.00

For bungalows, one-story, or flat roof buildings or for any buildings where it is difficult or unsightly to place the expansion tank of hot water heating plant above the radiators or where it is liable to freeze, a tank-in-basement method is desirable. A special Honeywell Heat Generator is built for the purpose, regularly manufactured in sizes 11, 12 and 13, with stand-pipes of different heights to properly take care of buildings having one, two and three stories and basement, and containing 2500 square feet or less of radiation. Details and description furnished upon application.

Honeywell Tank-in-basement Method of Hot Water Heating



For bungalows, one-story or flat roof buildings where it is difficult to place the expansion tank of a hot water heating plant above the radiators, or where it is liable to freeze, the Honeywell Tank-in-Basement method is recommended.

The principal difference between the regular Honeywell generator and the special Tank-in-basement generators is in the heights of the standpipes. In addition to generating 10 pounds pressure, the special generator holds the water up in the radiators, making necessary higher standpipes and more mercury. The expansion pipe from the top tapping of the special generator is only run to the ceiling of the basement, where it is vented and then dropped to any convenient drain.

It is important with a Tank-in-basement system that the expansion tank be air-tight, a brazed or electric welded air-tested tank with no tappings above the water should be used. On plants containing 600 square feet or less of radiation, a 21-gallon tank should be used; from 600 to 1000 square feet, a 30-gallon tank; from 1000 to 2000 square feet, two 30-gallon tanks or a 40-gallon tank on plants of 1000 to 1400 square feet of radiation. Larger plants in proportion.

The water in any Tank-in-basement system is held up in the radiators by artificial means and must not boil. Formation of steam would force the water down and out through the relief pipe. No. 30 Honeywell Water Regulator controls the heater drafts by means of water temperature, and is more reliable than regulation by pressure. As long as there is fire in the boiler, any temperature of the water in the system, between 100 and 220 degrees, may be maintained by adjusting the weights on the lever. A change of 2 to 3 degrees will cause the regulator to open or close dampers.

Honeywell Tank-in-basement equipment consists of a Special Honeywell Heat Generator and a No. 30 Honeywell Water Regulator.

For plants containing 2500 square feet or less radiation.

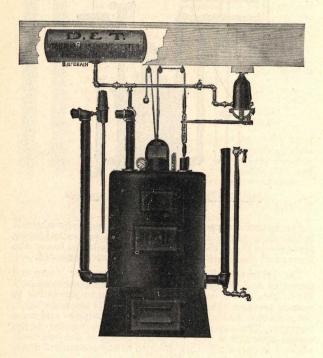
No.	Size Bldg.	Price Each
11	1-story	\$48.00
12	2 "	52.00
13	3 "	56.00

Equipment for plants containing more than 2500 square feet of radiation or buildings having more than three stories will be furnished upon request.

Tank-in-basement systems may be put in, using the standard generators installed in the same way as the specials, except that the expansion pipe must be run to a point a little above the highest radiator in the job, where it is vented and connected to any available drain. This standpipe being full of water balances the column of water in the system. The standard generator installed in this way has nothing to do but develop its pressure of 10 pounds, which forces the expanding water into the tank in the basement when the temperature inceases.

D & T Self-regulating Hot Water Heating Systems

Original Tank-In-Basement System



The D & T Tank-In-Basement System can be used on all sized installations of hot water heating from a one-story bungalow with two hundred square feet of radiation, to a four-story building with twenty-five thousand square feet of radiation.

The features of the D & T System are placing the expansion tank in the basement where it will not freeze, eliminating dangerous overflows, or stand pipes, furnishing automatic damper regulation, from one hundred degrees to two hundred forty degrees governed by the expansion and contraction of the water in the entire heating system.

The equipment consists of one pressure controller, one damper regulator, one expansion tank, one special pressure gauge, adjustment plate, chains and pulleys.

No. 2 Equipment

For 1, 2 or 3-story		
Price	 	\$60.00

No. 3 Equipment

For 3-st	ory buildings up to 1400 square for	eet radiation.
Price		\$60.00

No. 4 Equipment

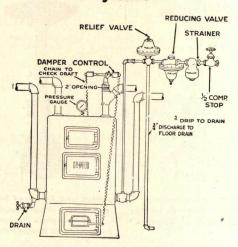
For 4-story	buildings	up to	1400	square	feet radiation.
Price					\$60.00

Extra Tank Capacity

For installations containing more radiation than listed above, an extra charge will be made for the additional expansion tank capacity.

When ordering, state number of square feet of radiation and stories of building.

Mueller Automatic Hot Water Heating Systems



The original hot water heating plant depended for its circulation entirely on gravity and has at its highest point an open tank to provide for the expansion of the water in the system when heated. This tank was sometimes placed in the attic where there was the possibility of its freezing. Often it was installed in the bathroom or chamber, making an unsightly object in an otherwise pretty room.

The next step in advance was the closed or tank in the basement system, which speeded up the circulation by putting a pressure on the system but depended on an air cushion in the tank for its safety. It was satisfactory until the air leaked out of the tank or was absorbed by the water when the system became water-logged and a dangerous pressure was developed.

To meet the demand for a pressure system that is free from danger, positive in circulation and easy to install, a water reducing valve and relief valve have been especially designed and perfected for this purpose. These valves have been combined with a damper control and when installed on a hot water plant make a most satisfactory system.

When the system is filled the reducing valve closes as soon as the pressure in the system reaches 10 lbs. As the water is heated the pressure increases in proportion to the increase in temperature of the water in the system. When a pressure of 25 lbs. is reached the relief valve operates allowing a few drops of water to escape. At this point the water has reached a temperature that is sufficient to heat the building and the damper regulator operates automatically checking the fire. As the temperature of the water decreases the pressure also decreases until it reaches 10 lbs. when the reducing valve automatically opens allowing just enough fresh water to enter the system to replace that which was discharged through the relief valve. It is a well known fact, admitted by all authorities on heating, that fresh water in a hot water heating plant promotes circulation. In the "Mueller System" just enough water is admitted daily to keep it fresh. The rate of circulation is also increased over that of the open tank due to the fact that a pressure of from ten to twenty-five pounds is on the system at all times. The absence of a tank of any kind in the system saves labor and material as well as doing away with the possibility of freezing or rusting out of tank.

Always leave the stop cock in supply pipe open and under no condition place a valve of any kind between the relief valve and the boiler. When filling system first close all air valves on the radiators and open supply cock and when the gauge shows 10 lbs. begin to let the air out of the radiators. The reducing valve will automatically fill the system as the air is discharged through the air valves.

Prices and further information upon application.

Minneapolis Heat Regulators

The Minneapolis Heat Regulator devices consist of an attractively designed thermostat (a mechanical automatic thermometer) placed on the wall of living room and connected by a small concealed electric cable to motor in the basement, the No. 65 Limit Control and No. 70 Pressurestat. The motor performs the work of operating drafts, dampers, etc., of the heating plant.

Model 77 Eight-Day Thermostat



The operation of Model 77 Eight-Day Thermostat is simple. The clock makes 2 actions, automatically lowering the indicator at night and raising it in the morning. The clock has a jeweled movement with 7 rubies and sapphires, with genuine bi-metallic balance. The finest Breguet hairspring is used. All pivots and pinions are polished, every part is extra heavy, insuring rigidity to the movement, long life and excellent time-keeping qualities. The clock is adjusted to heat and cold and to isochronism. Adjustment of the time set on the thermostat can be made almost instantly and the automatic throw of the indicator is adjustable either

backwards or forwards.

The Model 77 Thermostat is finished in brushed silver.

Model 47 One-Day Thermostat

Model 47 One-Day Thermostat is equipped with a reliable 24-hour clock, which, when set at night, will change the indicator at any predetermined hour in the morning to the day temperature desired. The clock is easily removed for winding.

The Model 47 Thermostat is finished in sand

blast bronze.

Model 55 Thermostat

Model 55 Thermostat is similar to Model 77 with the exception of its clock and finish. It is equipped with a dependable non-jewel clock and is finished in sand blast bronze.

Model 40 Thermostat

Model 40 Thermostat is designed for operation where clock attachment is not necessary or desired, as in case of large residences with hot water heat, for churches, etc., where certain fixed temperature is to be maintained at all times. The Model 40 has the same basic construction as all Minneapolis Thermostats, with only one moving bearing, thus eliminating faulty action and lost motion. Model 40 Thermostat is finished in sand blast bronze.

No. 65 Limit Control



No. 65 Limit Control is used to maintain a uniform temperature in hot water or warm air heating systems and hot water supply systems. Set indicator at desired temperature and when the water starts to go above that temperature, the device automatically checks fires. When the water falls below that temperature, the device advances the fires.

The standard model has a range of 100 to 240 degrees Fahrenheit.

No. 70 Pressurestat

No. 70 Pressurestat is used to maintain uniform pressure in steam and vapor heating systems. It is operated by pressure as the No. 65 Limit Control is

operated by water or air temperature.
Standard model has a range of 0 to 10 pounds, but can be furnished up to 125

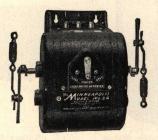
pounds.

Dual Control

Either the No. 65 Limit Control or the No. 70 Pressurestat can be operated in dual control with the room thermostat. This gives a double check on fuel waste, first by means of the room thermostat and second by means of the No. 65 Limit Control controlling water temperature or the No. 70 Pressurestat controlling pressure.

Minneapolis Heat Regulators

Electric Motor



The basic principles of construction of the Minneapolis. electric non-wind motor have proven their reliability in years of actual use and dependable service. This motor is connected directly to the house lighting circuit and never requires wind-

Motors and transformers encased in a die cast, dust proof aluminum housing, finished in black with nickel trimmings.

Tested and approved by the National Board of Fire Underwriters, and particularly recommended for use with gas, oil or central station heating.

Spring Motor



The power of the Minneapolis spring motor is furnished by a heavy spring, giving the motor ample power to handle the heaviest dampers or valves. One winding of this motor will handle the average heating plant from 1 to 2 weeks. The cover is made of pressed steel with baked enamel finish. Sleeving at shaft openings protects the mechanism from dust or moisture. The motor is provided with safety switch, so that in event of motor

being allowed to run down, the draft will always be left closed on last operation of motor.

Gravity Motor

The gravity type motor is designed for attachment to basement ceiling. Motive power is furnished by an iron weight of ample size to operate the dampers of the average heating plant. A governor regulates the speed of the motor, causing the drafts to be opened and closed slowly. Position of the weight indicates to what extent the motor needs winding. The motor has the usual Minneapolis feature of operating in such manner that when run down, the drafts are always left closed, thereby eliminating the possibility of fire hazard. Motor is



finished in baked black enamel over a casing of pressed 22-gauge steel.

	PRICE, EACH————————————————————————————————————			
Model Description	Electric	Spring	Gravity	
77 Duplex Thermostat	\$90.00	\$74.00	\$66.00	
55 Non-jeweled Thermostat	80.00	64.00	56.00	
47 One-day Thermostat	68.00	52.00	44.00	
40 Plain Thermostat	61.00	45.00	37.00	
65 Limit Control	60.00	44.00	36.00	
70 Pressurestat	65.00	49.00	41.00	
Price, Model 65 Limit Control Or	aly	each	\$20.00	
" " 70 Pressurestat Only	y	"	25.00	

Honeywell Automatic Temperature Regulators



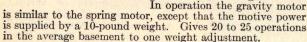
New Type D Electric Motor

The new Honeywell Type D Electric Motor is the shaded pole type; simple, silent in operation and neat appearing.

It has no armature, armature windings, commutator, brushes, brush holders, brush holder springs or brush holder The rotor is the only primary moving part.

Line voltage is taken into the motor and is automatically reduced to low voltage for the thermostatic circuit.

The spring motor is fitted with a spring of sufficient size to operate motor from 60 to 75 times on one winding. Two ordinary dry cells are required, or city light-ing circuit reduced to 12 volts through special transformer, may be used to trip the motor. Easily wound from front and an indicator shows whether winding is needed.





Gravity Motor





Type S One-day Thermostat



Type R has a jewelled balanced clock of improved mechanical construction, especially developed for thermostatic control. Good appearance and simple design. Clock will automatically lower temperature to any degree at night and automatically raise the temperature at any predetermined time in the morning. Necessary only to wind periodically. Type S one-day is a dependable instrument. Has morning and evening control feature but it is necessary to wind clock once every 24 hours and set indicator back each evening. Type Q plain pattern is like the other thermostats except it has no clock. Used where clock control is unnecessary. Indicator at all times is set by hand.

All are equipped with wall plate making it unnecessary to

handle thermostat when connecting wires.

Type DQ DS	Type Motor Electric	Ther- mostat Plain 1-day		Type SR GQ	Type Motor Spring Gravity	Ther- mostat 15-day Plain	Price Each \$64.00 37.00
DR	u	15-day	80.00	GS	"	1-day	45.00
SQ	Spring	Plain	44.00	GR	"	15-day	57.00
SS		1-day	52.00				00

With each regulator all trimmings necessary for installation except batteries are furnished. It is best to secure batteries locally because of deterioration.

Honeywell Vaporstats

For Vapor or Steam Heating Systems

The Honeywell Vaporstat is a pressure regulating device for vapor or steam heating systems.

It can be used with any style Honeywell Regulator Motor.

The vaporstat operates on pressure rather than temperature.

When installed on a vapor or steam system, it can be instantly set to control the pressure at any predetermined point.



Where desired, it can be installed to operate in conjunction with Honeywell Room Temperature Regulators, using the thermostat and motor already installed. In the above case, the wiring arrangement is such that the vaporstat serves as a limiting device in closing the heater dampers, oil or gas valve only when the pressure has reached a predetermined number of ounces or pounds. At all other times the house thermostat is in control of the heat supply.

The vaporstat is compact and offers an attractive appearance. It is threaded 3/8 inch and is easily attached to existing plants in the same way an ordinary pressure gauge is installed. The instrument is so constructed that if subjected to excessive pressure the working parts will not be damaged.

The Honeywell Vaporstat can be furnished in the following graduations:

Type C1-5 calibrated from 10-inch vacuum to 5 pounds pressure.

Type C1-50 calibrated from 0 to 50 pounds pressure.

Type C1-150 calibrated from 0 to 150 pounds pressure.

Price, Type C Vaporstat Only.....each \$20.00

Honeywell Aquastats For Water Temperature Control Type B



Type B

The Honeywell Aquastat is designed to be used in connection with any style Honeywell motor, for controlling the temperature of hot water plants, bake ovens, dryers, vulcanizers, etc.; also used in connection with room temperature regulators for limiting temperature of water in hot water heating systems.

The instrument will operate on the temperature of either air or liquids at temperatures ranging up to 300°. The scale provides for a variation of 100° which is sufficient to take care of almost every requirement. Standard scale, 100 to 200°.

Without extra cost, however, scales can be furnished from 150 to 250°, 200 to 300° or for any maximum or minimum temperature within the 300°.

The aquastat dial is only 4 inches in diameter. The bulb is tapped 3/4-inch, and is connected into top of boiler or tank. or can be set in a tee in the flow pipe near the boiler. The bulb extends approximately 134 inches beyond the threaded portion and can be attached to existing plants.

Wire connections are made to motor as in any regular installation. The motor can be located any distance from the aquastat. The aquastat is furnished regularly for operation on temperature of liquids. For operation on air temperatures the instrument is furnished with perforated bulb at a small additional charge. Either construction can be furnished with bulbs of special lengths at a slight additional charge. These special instruments are sometimes required where the body of the instrument is to remain outside of a dry room for ease of adjustment and where the bulb is to extend through the wall into the dry room.

Price, Type B Aquastat Only.....each \$20.00 Type C

If a less expensive unit is desired we can supply the Type

C which has the same operating elements but without the glass face, graduated dial or bronze case, at \$12.00.

Prices of special instruments are quoted upon application.

No. 845 Mercoid Thermostats

PATENT PENDING



With Cover Removed

For temperature control in refrigeration, on oil burners, unit heaters, etc.

The Mercoid Thermostat is for use where it is desired to start or stop an electric motor according to temperature changes. Current is thrown on or off direct to motor. No relay or other remote control is necessary. Has many applications such as oil burning apparatus, refrigeration work, control of motors, pumps, fans, etc. Operates by the expansion of a volatile gas contained within a flexible metal bellows. When temperature advances, the bellows expands, tilting the Mercoid, a sealed glass tube containing inert gas and mercury.

When tube is tilted mercury flows

When tube is tilted mercury flows to one end making contact within tube. Tilting movement positive and quick acting. Gives accurate

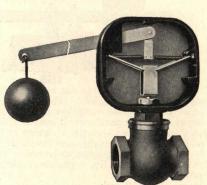
and close regulation. No open arc. No corrosion or oxidation of contacts. A positive safeguard against fire or explosion. Tests show the tube perfect after hundreds of thousands of operations. Rating: 10 amperes at 110 volts or 5 amperes at 220 volts, either direct or alternating current. Adjustable by indicator for any temperature within a range of 25 degrees. Can be furnished for any 25-degree range from minus 20 to plus 250 degrees F. Operates accurately at any set point. Complete data furnished on request, giving full details covering conditions of use.

	Heating F	For Refrigeration
Price, Single Circuit, Single-Pole	\$36.00	\$40.00
Price, 2-Circuit, Single-Pole		45.40
Price, Single Circuit, Double-Pole	46.00	50.00

Arco Snap-acting Gas Valves

This valve prevents back-fire. The movement of the stem is instantaneous. It is snapped closed at the instant the elever reaches the end of its travel. Requires minimum of power to operate it.

An entirely new principle of spring and toggle construction is employed which maintains full spring pressure on the seat—keep-



Showing Housing Removed

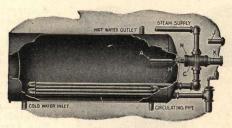
on the seat—keeping the valve closed tight—till the instant it snaps open. This prevents leakage of gas to the burner during the few moments before the opening movement takes place, which frequently causes back-firing in mixer. The valve is either wide open or tight closed, partial opening is impossible.

It can be used with the No.905 Arco Steam Regulator, No. 800 Arco Water Regulator, Honeywell Temperature Regulator or with similar thermostats.

Ball weight furnished with each valve. Frame can be loosened and swung at an angle to run of pipe if necessary.

Size Inches	Length End to End Inches	Height Inches	Weight Pounds	Price Each
3/4	45/8	61/6	41/2	\$14.00
1	53/8	65/6	5	16.00
$\frac{11/4}{11/2}$	515/16	75/16	7	18.00
11/2	$6\frac{5}{8}$	7	8	20.00
2	713/16	81/2	91/2	24.00

Arco Tank Regulators



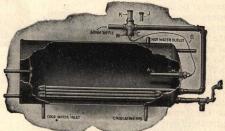
Direct Connected Type

For automatic regulation of the temperature of water or other liquids heated by steam. For steam pressure up to 15 pounds.

For use in hotels, schools, office buildings, hospitals, apartment buildings, factories, public institutions.

This regulator has been designed under an entirely new principle of volatile gas expansion. This new principle allows the use of a single seated valve, which eliminates the leak through the valve so common with double seated valves. It also allows the regulator to be placed in any position. It is sensitive, accurate and positive in operation. The valve has no stuffing box and cannot leak steam around the stem. It will not bind in operation, hence insures close regulation.

The Arco Tank Regulator is small and compact. No moving parts are exposed, but are encased in a cast iron housing, finished in baked enamel. Interior parts are of brass with renewable seat and disc of phosphor bronze—the best metal obtainable for valve seats. The bellows used in this construction is made from one piece of brass—not from built-up discs.



Flexible Tube Type

Both the flexible tube type and the direct connected type operate on the same principle. Operating power is developed by the expansion of gas. Gas is readily responsive to temperature changes, hence quick operation and close regulation. An increase in temperature of the water surrounding the bulb A increases the internal gas pressure in the bellows chamber which forces up the head of the bellows and the valve stem, closing the valve. A slight cooling of the water causes a lessening of the gas pressure which allows the compression spring to open the valve. Adjustment for temperature is made by means of a key, turning to right for higher temperature and to the left for lower temperature. This feature prevents meddlers from tampering with the adjustment.

Temperature range regularly furnished 140° to 180° F. Special temperature range supplied on special order. Both types for use on steam pressure up to 15 pounds.

Sizes No. 825 A and B are furnished in the direct connected type. Sizes No. 826 A, B, C and D are supplied in the flexible

type. Sizes No. 826 A, B, C and D are supplied in the flexible tube type.

All sizes have iron body—brass interiors with bronze disc and seat. Sizes A and B have unions, both ends. Sizes C and D have screwed ends. Flexible tube sizes C and D are regularly furnished 8 feet long. Regulators with longer tubes can

be supplied on special order.

Furnished complete with adjusting key and bushings. Full

directions	for installation with	each regulator.	
	For Pipe	Shipping Weight	Price
No.	Inches	Pounds	Each
825A	$\frac{1}{2}, \frac{3}{4}, 1$	20	\$50.00
825B	11/4, 11/2	25	60.00
826A	1/2, 3/4, 1	20	60.00
826B	11/4, 11/2	25	70.00
826C	2	50	80.00
826D	21/2, 3	60	90.00

No. 800 Arco Water Regulators



A damper regulator designed for hot water boilers which will control the drafts so as to maintain a constant water temperature at any degree between 100 and 220 degrees Fahrenheit.

The Arco Water Regulator is made entirely of metal. Within the bulb is an expansible metallic bellows, surrounding which is volatile liquid. As

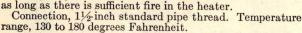
the water temperature in the system increases, the liquid vaporizes and the gas pressure generated thereby compresses the bellows and forces upward the thrust rod or stem which tilts the level and closes the drafts. As the water cools the gas pressure is relieved and the counterweight opens the drafts. There are no perishable parts to wear out. The action is sensitive and accurate. Adjustment for temperature is obtained by changing the position of weights on the cover.

Connections, 2-inch iron pipe thread.
Price, No. 800each \$18.00

No. 801 Arco Junior Water Regulators

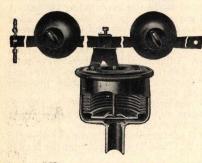
This regulator is designed especially for hot water supply boilers. As the dampers are small and light, less power is required to operate them. The construction and operation are similar to that of the No. 800 Arco Water Regulator.

The Arco Junior Water Regulator prevents boiling, sputtering steaming water at the faucets and insures plenty of hot water



Price, No. 801each \$16.00

No. 905 Arco Steam Regulators



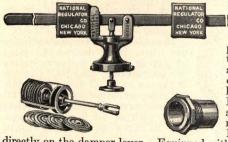
An all-metal pressure regulator for controlling dampers on steam-heating boilers. It is sensitive and accurate. The diaphragm is a metallic bellows. The regulator contains no rubber or other perishable material, thus saving the annoyance and expense of renewals so common with regulators using

a rubber diaphragm. The design is such that the steam pressure is on the outside of the bellows, with the stem or thrust rod extending down within the bellows where it is attached to the head at the bottom. These two prime features insure that the bellows expands or contracts evenly in all folds. There is no tendency for the bellows to tilt, and thus unduly stretch the metal on one side. The head is formed as an integral part of the bellows, thereby eliminating possibilities of leak at a soldered joint.

For pressures up to 15 pounds. Connection, 1-inch male thread.

Price, No. 905each \$15.00

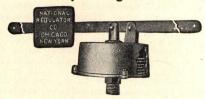
Type F-2-inch Metaphram Damper Regulators



The metaphram discs in this regulator are separable, contained in a light brass cage. Lifted from well as a unit for replacements. Metaphrams act

directly on the damper lever. Equipped with 40-inch lever, weights, 12 feet of No. 0 plumbers' chain and 2 ceiling pulleys. Height over all, 8½ inches. Hub threaded 2-inch standard pipe. Price, Type F-2-inch.....each \$18.00

Type A 4-inch Metaphram Damper Regulators



For any medium size house heating boiler. The Type A-4-inch has a larger number of diaphragms than the Jr., increasing the lift. May be used on any low pressure boiler operating under 15 pounds.

Equipped with a 40-inch lever, an adjustable weight, two ceiling pulleys and 12 feet of No. 0 plumber's chain. ½-inch male pipe connection.

Price, A-4-inch.....each \$15.00

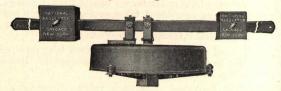
Type C-7-inch Metaphram Damper Regulators



For medium and large size house heating boilers where lift and power are required. The patented universal adjustment feature gives variation of lift and power within the limits of the apparatus and makes this size applicable for pressure or vapor through a change in the fulcrum position and a shifting of weights and lever. Equipped with 48-inch lever, adjustable weights, universal adjustment, two ceiling pulleys, 12 feet of No. 0 plumbers' chain and 1-inch female pipe connection.

Price, Type C-7-incheach \$20.00

Type D-10-inch Metaphram Damper Regulators



For use on large size heating boilers operating on the pressure, vapor or vacuum system. Having 10-inch discs it is extremely sensitive to slight changes of pressure or vacuum. It has the added advantage of self-collapsing discs making it ideal for vacuum systems. Equipped with 48-inch lever, weights, two bell cranks, 12 feet of No. 0 plumbers' chain, and 1-inch female pipe connection.

Price, Type D-10-inch.....each \$27.00

Hot Water Thermometers Dial Type

For Hot Water Heating Boilers and Hot Water Supply Boilers





No. 551, Angle

In shape, appearance and method of indicating temperature, this thermometer follows closely the precision instruments so widely used for industrial and laboratory work.

Temperature is indicated by the movement of a hand across a Fahrenheit scale. The bold black marking and black hand stand out clearly on the white face, making the temperature easily readable in boiler rooms or basements where frequently the light is poor. The design is pleasing and more in keeping with equipment than mercury or spirit thermometers. The case is black baked-on enamel, hard rubber finish.

Accuracy and quick responsiveness to temperature changes are special features of this thermometer. Its construction is rugged and eliminates the expense and annoyance of broken tubes.

Width of case, 3½ inches. Threaded connection, ½-inch I. P. S. Can be supplied with dealer's name on dial.

Price.	No.	550.	Straighteach	\$5.00
"	"	551,	Straighteach Angle	6.00



Marsh Improved Hot Water **Thermometers**

White enamel scale with permanent black markings. Case pressed steel, baked white enamel finish. Furnished Red Spirit tube or Mercury tube. Temperature scale graduated 40 to 260 degrees by five de-

Scales 6 inches high. Height over all: straight, 10 inches; angle, 7½ inches. Standard pipe connections, ½-inch male with thread. Posterior inches and property of thread and posterior inches and property of thread posterior inches and poste pipe thread. Packed in individual cartons. Weight packed, 1 pound each. Price, Straight each \$3.00

"Angle "3.25



Straight

Marsh Ther-Alti-Meters



A combined altitude gauge and hot water thermometer. Tube is filled with red spirit, clear, distinct and with mercury bath. Dial especially grooved to receive tube and prevent breakage; a non-glare, pure white dial; altitude in dead black, temperature, bright red. Dust and moisture proof case, non-breakable, cold rolled stamped steel. Ring fitted with lock and unlock thumb screws; bourdon tube is non-corrosive with interior movement selected and seasoned for hot water work. Hexagon shank for wrench, half-inch male pipe

thread. Graduated 0 to 70 feet altitude and 40 to 260 degrees Fahrenheit. Permanent white enameled finish, baked. Price, 3½-inch, Weight, 1½ Pounds ... each \$10.00 # 4½ " 2½ " 12.00

Round Galvanized Expansion Tanks



Made of steel, heavily galvanized with highest grade zinc spelter both inside and out. Thoroughly tested before leaving factory.

The water supply opening in the side is riveted in place of welding so it cannot be turned or broken out.

Spuds used are of drop forged steel and machined with a good clean thread.

Openings for gauge glass fittings are ½ inch and are 13½ inches from center to center. Can be differently spaced on special order.

Furnished without fittings.

Approx. Capacity Gallons	Size Inches	Square Feet of Radiation	Price Each witbout Trimmings
10	12x20	300	\$8.00
15	12x30	500	9.00
20	14x30	700	12.50
26	16x30	950	14.00
32	16x36	1300	15.00
42	16x48	2000	16.50

No. 497 Expansion Tank Brackets



Takes in all sizes of tanks from 10 to 16 inches diameter. Labor-saving—can be erected in two minutes. A substitute for the old-fashioned shelf and at less expense. Weighs about 6½ pounds and is shipped with screws packed under the slide pieces.

Price, No. 497.....each \$1.75

Excelso Fire Pot Generators



Fits any type of hot water boiler or hot air furnace and is so designed as to be entirely above the fire.

Made in either cast iron, galvanized iron or brass in 2 sizes: Size No. 1, up to 40 gallons capacity; size No. 2, from 40 to 60 gallons capacity.

No	1	2
Price, Cast Ironeach	\$8.00	\$12.00
" Brass	18.00	27.00

Radiator Screw Nipples



No. 5 With Right and Left Threads

Heavy malleable radiator screw nipples with right and left threads.

Size....in. 1½ 1¾ 2 Price....each \$.15 .20 .20

R. & L. Hexagon Nipples

Price,	11/2	-inch	Size					*	.each	\$.50
	-			•	•	•		•		.10

Also adapted for vento radiation.

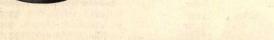


Radiator Push Nipples

No. 4

These nipples can be furnished in all sizes for all types of radiators.

Price ... each \$.30





		50	
Size Inches	Price Each	Size Inches	Price Each
1 x 3/4	\$.09	1½x1¼	\$.14
11/4×1 11/6× 1/6	.11	2 x 3/4 2 x1	.21
11/2X 3/4	.14	2 x11/4	.21

.14

Radiator Bushings

Eccentric Bushings

		140	. 35
Size Inches	Price Each	Size Inches	Price Each
11/2x1/2	\$.25	2x 3/4	\$.27
11/2x3/4	.25	2x1	.27
2 x½	.27		

Sizes $1\frac{1}{2}x\frac{1}{2}$ and $1\frac{1}{2}x\frac{3}{4}$ also furnished with left hand threads.

2 x11/2

.21

Radiator Plugs

Size Inches	Price Each	Size Inches	Price Each	TAN
3/4	\$.06	11/2	\$.14	MEDICAL
11/4	.08	2	.20	透透



Radiator pedestals are made in the following heights: $\frac{1}{2}$, $\frac{1}{2}$, $\frac{2}{2}$, $\frac{2}{2}$, $\frac{3}{2}$, $\frac{3}{2}$, $\frac{4}{2}$, $\frac{4}{2}$ and 5 inches.

Cast Iron Adjustable Radiator Feet



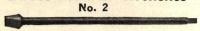
No.	Height Closed In.	Height Open In.	Price Each
1	7/8	11/4	\$.20
2	11/4	13/4	.25
3	13/8	$2\frac{1}{4}$.30

Indirect Radiator Wrenches



 $\begin{array}{cccc} \text{Made especially for assembling wall and indirect radiators.} \\ \text{Size of Nipple.} & \text{inches} & 1\frac{1}{2} & 2 \\ \text{Price.} & \text{each} & \$4.00 & 5.25 \\ \end{array}$

Direct Radiator Wrenches

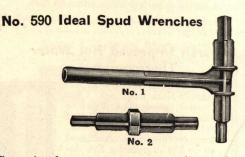


 Made in two sizes for 1½ and 2-inch nipples.

 Size of Nipple
 inches
 1½
 2

 Price, Wrench, 2 Feet Long
 each \$2.00 \$2.25

 " " " " " 3.00 3.75



Convenient for connecting up union radiator valves or union elbows. Style 1 is used hand-to and has an open hexagon on end of handle for adjusting bolt nut. Style 2 is used with a Stillson wrench. Either style, 34, 1, 11/4 and 11/2-inch sizes. Made of malleable iron.

Radiator Bronze Powder



Size of	Canp	ound	1/2	
Price of	Gold Bronzeper	can		\$2.90
" "	Copper "	"		2.90
" "	Copper " Aluminum Bronze.	"	\$1.40	2.50

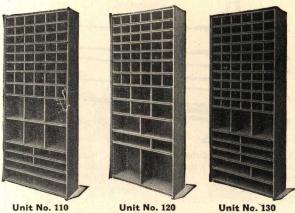
Other colors in one-pound cans.

Radiator Bronzing Liquid

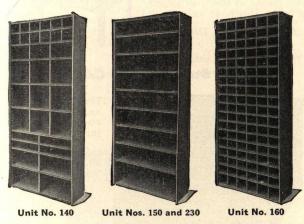
Size of Can gallon 1/2 1 Price per can \$1.80 3.40



Lupton Unit Shelving



Lupton Unit Shelving is suited to the miscellaneous uses of secondary storage. It is lighter than the heavy types of storage shelving yet it is exceptionally strong. Metal goods, hardware, metal patterns, motor accessories, etc., as well as lighter articles, can be stored in the Lupton Unit Shelving with a maximum of convenience. The unit is used in manual training schools for holding tools, hardware, materials and samples of finished work: in stores and offices it makes for neatness and efficiency. It is also useful in factories, mills, etc., for holding samples of metal goods, as well as small stocks for immediate use. Unit No. 150 is suitable for stationery and office supplies. Unit No. 160 is especially intended for small bolts and other hardware.



Unit No. 150 will carry 100 pounds per shelf, evenly distributed. Unit No. 230 has steel reinforcing member and will carry a distributed load of 300 pounds per shelf. The other units will carry any quantity of ordinary metal articles that can be put in the bins.

To move Lupton Unit Shelving to a new location it is only necessary to tip each unit back on a hand truck. It is not necessary to empty shelves completely or to take them apart and re-erect as with ordinary steel shelving.

All shelves and bins have label holders. Shelves and bin dividers can be adjusted by moving a few bolts. Additional shelves can be furnished.

Shelving is finished in velvet-green baked enamel.

Units are completely assembled at the factory and shipped crated ready for immediate use.

Dimensions: Width, 3 feet; height, 7 feet; depth, 1 foot.

No.	Dimensions Feet	Weight Lbs.	Price Each
110	3x7x1	210	\$45.60
120	3x7x1	190	41 60
130	3x7x1	220	51.00
140	3x7x1	175	34.80
150	3x7x1	150	26.60
230	3x7x1	160	32.20
160	3x7x1	250	57.70

Lupton Bin Type Storage Shelving



Intended for stock rooms, warehouses, etc., where heavy loads are required. Usual shelf depths are 12, 18 and 24 inches, with uprights three feet apart carrying a distributed load of 1000 pounds on the shelf, or 7000 pounds per unit.

Bin type is furnished with solid back and solid uprights.

Single Face Units

			SING		SECO:	ND	FOR EACH SHELF	
		No. of	UNIT		or F	OL-	ADDED OR	
	2	Inter-	FIRST OF		LOWING	UNITS	Ом	ITTED
Ht.		mediate		Price	Wt.	Price	Wt.	Price
Ft.	In.	Shelves	Lbs.	Each	Lbs.	Each	Lbs.	Each
8	12	7	184	\$28.90	159	\$25.00	10	\$1.60
10	12	9	222	35.10	194	30.50	10	1.60
8	18	7	243	37.30	201	31.00	16	2.00
10	18	9	300	46.10	248	38.20	16	2.00
8	24	7	330	50.40	280	42.50	20	3.10
10	24	9	405	62.00	340	52.20	20	3.10

Double-Faced or Back to Back Arrangement

When sections are placed in center of the room in double-faced or back-to-back arrangement the back of the first unit may be used for two sections. Any two sections of the same height may be placed back-to-back in this way.

In ordering, specify number of backs to be omitted and deduct price of one back for each pair of units to be so placed. Price, Back, for Unit 8 Feet High...each \$6.60 Price, Back, for Unit 12 Feet High...each 8.20

Bin Dividers

Size In.	Ship. Wt., Lbs.	Price Each	Size In.	Ship. Wt., Lbs.	Price Each	Size In.	Ship. Wt., Lbs.	Price Each
6x12		\$ 22		1.2			2.2	
9x12	1.2	.26		1.7			3.0	
12x12	1.6	.32	12x18	2.2	.40		5.2	
			18x18	4.0	.80			

Bin Fronts

36x1½ 2.0 \$.50 36x3 3.1 \$.64 36x6 4.5 \$.82

Label Holders

Price, 1x31 In. for 1/8-In. Card, Wt. .36 Lbs....each \$.15 Price, 2x31 In. for 1/8-In. Card, Wt. .62 Lbs....each .20



Lupton Steel Utility Cabinets

For stationary and miscellaneous storage.

Can be used as a storage cabinet, a bookcase, a wardrobe or a locker. The shelves are adjustable and may be purchased as required.

The door has a 3-point latch with cylinder lock.

Width, 36 inches; height, 75 inches; front to back, 18 inches.

Shipping weight with shelves, 225 pounds.

Price, Complete... \$48.00

Lupton Rack Type Storage Shelving

For stock rooms, warehouses, etc.

Usual shelf depths, 18 and 24 inches with uprights three feet apart.

Rack type is open. Units, 3 feet wide, 8 feet high, 24 inches deep. Top, bottom and 3 intermediate shelves per unit.



Loads Up to 1000 Pounds per Shelf

		ads op	LO TOUG F	ounds	s per on	eir	
FIRST	UNIT OR OF ROW	LOWIN	D OR FOL-	ED OR	SHELF ADD-		ONAL PER PAIR
Wt.	Price	Wt.	Price	Wt.	Price	Wt.	Price
Lbs.	Each	Lbs.	Each	Lbs.	Each	Lbs.	
173	\$27.80	135	\$21.20	18.7	\$2.90	4	\$.70
	Loa	ds 1000	to 1200	Poun	ds per	Shelf	****
195	\$31.80	155	\$25.20	24	\$3.70	4	\$.70
			Label Ho	oldere			
Price,	1x31 In 2x31 "	for 7/8-	in. Card,	Wt	4 Lb	eac	h \$.10



No. 710 Lupton Steel Shelving Units

For pipe fittings.

This is a steel unit ready to use, for the systematic storage of 6500 fittings.

Iron pipe sizes 3/8 to 1 inch. Contains 123 individually indexed compartments.

Size, 3 feet wide, 7 feet high, 12 inches front to back.

Finish is velvet-green baked enamel.

Shipping weight, 245 pounds.

Price, No. 710 each \$54.00

No. 720 Lupton Steel Shelving Units

For small tools.

Contains 60 compartments 3 inches wide (48 of them sloping) and 6 drawers, 4½x6x12 inches.

Total,148 compartments each separately indexed.

Size, 3 feet wide, 7 feet high, 12 inches front to back.

Finish is velvet-green baked enamel.

Shipping weight, 240 pounds.



Price, No. 720.....each \$48.00 Lupton Steel Bench Drawers

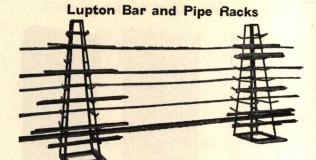


A cylinder lock enables foreman to have a safe storage for blue prints, etc. Made of angle iron and sheet steel.

Price, 18-inch...each \$4.50

" 24 " ... " 5.50

" Tray, Extra." .40



No. 499 Lupton Factory Desks

Ruggedly made for hard wear but smoothly finished. Full width drawer with cylinder lock. Top is reinforced and hood contains pen holder on each side. Widely used by foremen, timekeepers, shipping clerks, etc.

Finish, high grade baked green enamel.

Width, 36 inches. Height: 43½ inches at front; 52 inches at back. Depth, 28 inches.

Shipping weight, 150 pounds.

Price, No. 499....each \$38.40

Lupton Steel Counter Cabinets



Each drawer is 12x12x2¼ inches and contains 12 compartments, 4x3 inches.

Convenient for small bolts, nuts, washers, etc.

Makes a neat appearance on the counter.

Shipping weight, No. 530, 19 pounds; No. 531, 35 pounds.

 Price, No. 530, 3 Drawers
 .each \$7.00

 Price, No. 531, 6 Drawers
 .each 14.00

No. 520 Lupton Bench Legs



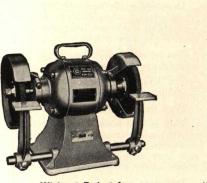
Made from pressed steel with all parts die-formed and welded together. Top and feet are broadly flared, providing stability without cross-bracing. A strong construction for heavy duty.

Height, 31 inches without top. From front to back, 23½ inches. Extension increases depth 5 inches. Shipping weight, 25 pounds. Shipping weight of extension, 2 pounds.

 Price, No. 520
 each \$4.70

 Price, No. 526, Extension
 each .40

Black & Decker 6-Inch Electric Grinders







With Pedestal

An ideal bench grinder for sharpening edge tools and general grinding work. Can also be used with wire or rag buffing wheel. This is not a universal motor; specify whether required for A.C. or D.C. Complete as illustrated with 2 grinding wheels, 1 coarse and 1 fine; 2 wheel guards, 2 tool rests, electric cable fitted with attachment plug and electric switch.

Diameter of Wheelsinches	6
Face of Wheels "	1/2
No Load Speed, 60-cycle and D.Cr.p.m.	3600
Weight, Netpounds	38
Price, for 110 Volts, 60-cycle, A.C each	\$46.00
" 110 " 25, 40 or 50-cycle, A.C "	50.00
" " 220 " 60-cycle, A.C "	50.00
" " 110, 220 or 32 Volts, D.C "	50.00
" Pedestal, Extra"	12.00
" Extra for Threaded Taper Buffing Wheel Ex-	
tensioneach	3.50

Black & Decker 8-Inch Electric Grinders



Without Pedestal



With Pedestal

Not a universal motor. Specify whether required for d.c. or a.c., and if for a.c. specify whether 25, 40, 50 or 60-cycle.

Bench grinder complete as illustrated with two 8-inch grinding wheels, 1 coarse and 1 fine; 2 wheel guards, 2 adjustable tool rests and switch in base.

able tool rests and switch in base.	
Diameter of Wheelsinches	8
Face of Wheelsinches	3/4
No Load Speed, 60-Cycler.p.m.	3600
No Load Speed, D.Cr.p.m.	3000
Weight, Netpounds	75
Price, for 110 Volts, 60-Cycle, A.Ceach	\$96.00
" " 110 " 25, 40 or 50-Cycle, A.C "	100.00
" " 220 " 60-Cycle, A.C"	100.00
" " 110 or 220 Volts, D.C "	100.00
" Pedestal, Extra"	18.00
" Extra for Threaded Taper Buffing Wheel Ex-	
tensioneach	5.00

Black & Decker 6-Inch Twist Drill Grinders



This equipment will quickly and accurately grind straight shank and taper shank twist drills up to \(^5\epsilon\)-inch diameters.

A micrometer screw feed is provided to advance the twist drill against the cup grinding wheel.

No adjustment is necessary for grinding different diameter twist drills.

Complete as illustrated, with one general purpose grinding wheel, one cup wheel, one tool rest, two wheel guards, electric switch in base and electric cable fitted with attachment plug.

Price,	for	110	Volts,	60-Cycle, A.Cea	ch \$	66.00
"		110	"	25, 40 or 50-Cycle, A.C		70.00
"	"	220	"	60-Cycle, A.C		70.00
"					"	70.00
"				Water Pot	16	12 00

Black & Decker Electric Valve Grinders

With the Pistol Grip and Trigger Switch



Manufactured in two sizes. The No. 1 is used generally in garages, service stations and in production plants. The No. 2, which is a larger, more powerful and faster machine, is designed for use on exceptionally large heavy valves and for production work.

Operates on alternating or direct current.

Rugged in construction, is air cooled and can be operated continuously without overheating.

The spindle oscillates back and forth with a long steady

The spindle oscillates back and forth with a long steady sweep similar to the motion used in grinding by hand, but much faster.

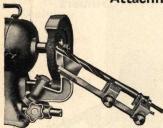
The Black & Decker Electric Valve Grinder is complete with 7½ feet of duplex electric cable, separable attachment plug, detachable bits, box of grinding compound and lift spring.

Weight, No. 1, 6 pounds. Weight, No. 2, 10 pounds.

Price.	No.	1.	for	110 Volts each 220, 250 or 32 Volts	\$34.00
"	"	1	"	220, 250 or 32 Volts	38.00
u	1	4		110 VOIUS	64.00
"	"	2	"	220, 250 or 32 Volts "	68.00

Blank bits which can be filed to fit special valves are furnished for 60 cents per half dozen.

Black & Decker Twist Drill Grinding **Attachments**



By means of this equipment straight shank and taper drills up to 5/8-inch may be quickly and accurately ground.

This equipment has been designed for tool room and machine shop use.

Equipped with micrometer screw feed. No adjustment is necessary for grinding different diameter twist drills.

Price, attachments for 6-inch Bench Grinder ... each \$24.00

Black & Decker Portable Electric Grinders

Wi'h the Pistol Grip and Trigger Switch



Sharpens tools; smooths castings and forging ridges and rough spots; smooths welds and shapes fittings.

With the wire-brush wheel, it roughens tires, removes sand from castings and removes rust and paint from metal surfaces.

With the rag buffing wheel, it can be used for all sorts of polishing work.

Furnished complete with 15 feet of duplex electric cable with attachment plug, grinding wheel and wheel guard except 4-inch grinder which is supplied without wheel guard.

Operates on a.c. and d.c. and on voltages 10 per cent over or under those specified.

Size Grinderinches	4	5	6
Horse Power	1/6		1/2
Diameter of Grinding Wheelinches	4	1/4 5	6
Face of Grinding Wheel "			1
Diameter of Hole of Wheel "	5/8 1/2	3/4 1/2	5/8
No Load Speedr.p.m	4800	3800	3300
Over All Lengthinches	17	22	231/4
Greatest Diameter"	4	5	: 6
Extension Gear Case to Center of			
Wheelinches	73/4	81/4	9
Net Weight pounds	10	151%	241/2
Price, for 100 Volts	\$60.00	\$80.00	\$90.00
" 220, 250 or 32 Volts. "	64.00	84.00	94.00

Black & Decker Grinding Outfits



This grinding outfit consists of a stand for holding the electric drill, grinding wheel arbor and 3-inch grinding wheel with ½-inch face. Ideal for sharpening drill bits, chisels, screwdrivers, or any kind of light grinding, whether on the bench or portable.

Price, No. F-315, for 1/4-Inch Drill......each \$3.25 "F-316" Heavy Duty 1/4-Inch Drill..." 4.00

Stands Only

The ¼-inch Black & Decker Drill can quickly and easily be put in this stand and held rigid by a clamping screw.

Price, No. F-176, ¼-Inch Drill Stand ... each \$1.25

"F-310, Heavy Duty ¼-Inch Drill Stand " 2.00

Black & Decker 10-Inch Grinders

With Plain Universal Guards



An exceptionally husky 10-inch grinder, provided with adjustable tool rest, snap switch and water pot, but price does not include grinding wheels.

Can be supplied in bench type or as complete pedestal grinder.

The A.C. 60-cycle motor embodies the Marschke removable stator core.

Must be operated from power circuit.

This is a 1-horsepower, totally enclosed, ball-bearing machine with cast iron guards and enclosing covers. Malleable iron wheel guards and enclosing covers can be supplied at extra cost.

Tool rests mounted on wheel guards are adjustable to the wear of the wheel by means of hand screws and lock. This

has a sliding adjustment at an angle which insures the front top of wheel guard maintaining the same distance from wheel as the tool rest, thereby providing automatic spark protection. These guards are of the Universal type and the opening can be brought to any position by means of a lever, no tools being required. This enables the operator to grind at any position on wheel circumference.

220, 440 or 550 Volts, 2 or 3-Phase, 60-Cycle A.C.

Bench Type

H.P.	WHEELS, IN. Diam. Face	Speed R.P.M.	Spindle, In. Diam. Lgth.	Base In.	Ht. In.	Wt. Lbs.	Price Each
1	10 x 1¼	1800	7/8 24	11x12	91/2	225	\$125.00

Pedestal Type 1 10 x 11/4 1800 1/8 24 18x18 375 \$150.00

Black & Decker 12 and 14-Inch Grinders With Exhaust Type Universal Guards



Provided with adjustable tool rests, either round removable or stationary water pot, as desired, and push button motor control. Can be supplied with foot control,

if specified, without extra charge. Price does not include grinding wheels.

Supplied as complete pedestal

grinder only.

The A. C. 60-cycle motor embodies the patented Marschke removable stator core.

This is a 3-horsepower, totally enclosed, ball-bearing machine with wheel guards of electric steel with cast iron enclosing covers.

front rib on side of guards can be removed without injury to guards if more side space is required. No extra charge for this if specified with order for machine.

Tool rests mounted on wheel guards and guards adjustable to the wear of the wheel by means of hand screws and lock. This has a sliding adjustment at an angle which insures the front top of wheel guard maintaining the same distance from wheel as the tool rest, thereby providing automatic spark protection. These guards are of the Universal type and the opening can be brought to any position by means of a lever, no tools being required. This enables the operator to grind at any position on wheel circumference.

220, 440 or 550 Volts, 2 or 3-Phase, 60-Cycle A.C.
WHEELS, IN. Speed SPINDLE, IN. Base Ht. Wt. Price
P. Diam. Face R.P.M. Diam. Lgth. In. In. Lbs. Each WHEELS, IN. Speed SPINDLE, IN. H.P. Diam. Face R.P.M. Diam. Lgth. Price Each 1800 1¼ 1¼ $\frac{29\frac{3}{4}}{32\frac{3}{4}}$ 12 x 2 23x20 650 \$275.00 14 x 3 1800 23x20 39 300.00

110 or 220 Volts, D. C. 321/2 12 x 2 1800 23x20 600 \$325.00 14 x 3 1800 39 23x20 39 750 350.00

Black & Decker 12, 14 and 18-Inch Wide Type Grinders With Exhaust Type Universal Guards

These are 4-bearing machines, provided with adjustable tool rests, either round removable or large stationary water pot, as desired, and push-button motor control, but can be supplied with foot control for the 3-horsepower sizes if specified, without extra charge.

Prices do not include grinding wheels.

Supplied as complete

pedestal grinder only.

The A. C. 60-cycle motor embodies the patented Marschke removable stator core.

These are totally enclosed, ball bearing machines with wheel guards of electric steel with cast iron hinged enclosing covers. Front rib on side of guards can be removed, if side space is required, without extra charge, if specified with order.

Tool rests mounted on wheel guards and guards are adjustable to the wear of the wheel by means of hand screws and lock. This has a sliding adjustment at an angle which insures the front top of wheel guard maintaining the same distance from wheel as the tool rest, thereby providing automatic spark protection.

2	220, 440	or 550	Volts	, 2 or	3-Pha	se, 60	-Cycle	e A.C.
	WHEELS, IN. Diam. Face	Speed	SPIND	LE, IN.	Base		Wt.	
3	12 x 2		11/4	48	23x20		725	\$350.00
3	14 x 3	1800	11/4	51	23x20	39	725	400.00
5	14 x 3	1800			29x32	34	1350	475.00
5	18×3	1200	11/2	56	29x32	34	1500	525.00
		11	0 or	220 V	olts, D	. C.		
3	12×2	1800	11/4	49	23x20	39	725	\$400.00
5	14 x 3	1200	11/2		39x32	34	1350	550.00
	Name of the last							

Black & Decker 18, 20 and 24-Inch **Heavy Duty Grinders**

With Exhaust Type Universal Guards



A 4-bearing machine provided with adjustable tool rests and push-button motor control.

Prices do not include

grinding wheels.

The A. C. 60-cycle motor embodies the patented Marschke removable stator

This is a totally enclosed, ball-bearing machine with extra heavy wheel guards of electric steel and cast iron

hinged enclosing covers. The front rib on the wheel guards can be removed without injury to guards if more side space is

desired. No extra charge for this if specified with order.

Spindles have square threads. Tool rests are mounted on wheel guards and the guards are adjustable to the wear of the wheel by means of hand screws and lock. This has a sliding adjustment at an angle which insures the front top of wheel guard maintaining the same distance from wheel as the tool rest, thereby providing automatic spark protection. These guards are of the Universal type and the opening can be brought to any position by means of a lever, no tools being required. This enables the operator to grind at any position on wheel circumference.

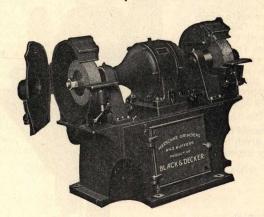
Water pots, which fasten to side of base, can be supplied at extra cost.

220, 440 or 550 Volts, 2 or 3-Phase, 60-Cycle A.C.

	WHEELS, IN.				Base	Ht.	Wt.	Price
H.P.	Diam. Face	R.P.M.	Diam.	Lgth.	In.	In.	Lbs.	Each
5	18x3	1200	11/2	48	29x32	34	1500	\$500.00
71/2	20x4	1200	2	50	29x32	34	1600	600.00
10	24x4	900	2	561/4	29x32	34	2200	700.00

Black & Decker 18, 20, 24 and 30-Inch **Heavy Duty Grinders**

With Exhaust Type Adjustable Guards and Automatic Spark Shield



Four-bearing machines totally enclosed.

These grinders up to and including 10 horsepower, have automatic cross-the-line push-button starters with overload and under voltage protection for starting and stopping. Machines above 10 horsepower have manual starters, unless automatic starters are specified, for which there will be an extra charge. The cross-the-line starters are mounted on inside of door, being easily accessible for adjustment. Prices do

not include grinding wheels.

The A.C. 60-cycle motors have the patented Marschke removable stator core. Two or 3-speed motors can be furnished

at extra charge.

The out-board bearings are independent from the motor bearings. Over-size ball bearings with end thrust taken up by double radial and thrust bearing in right side of motor.

Extra heavy wheel guards of electric steel with cast iron

hinged enclosing covers. Spindles ground to size and have square threads.

Tool rests mounted on wheel guards, and the guards are adjustable to the wear of the wheel by sliding on table. Guards are guided on table by tongue and groove and locked by means of a hand lever, no wrenches being required. The patented Marschke spark shield, mounted on upper lip

of guard, is arranged so that it automatically hugs the wheel, being controlled by the adjusting of the guard as the wheel

diameter decreases with wear.

220, 440 or 550 Volts, 2 or 3-Phase, 60-Cycle A.C.

	WHEEL	S, IN	I. Speed	SPINDI		Base	Ht.	Wt.	Price
H.P.	Diam.	Face	R.P.M.	Diam.	Lgth.	In.	In.	Lbs.	Each
71/2	18	3	1200	2	54	45x31½	34	2000	\$650.00
71/2	20	4	1200	2	56	45x31½	34	2200	700.00
10	20	4	1200	21/4	56	45x31½	34	2400	750.00
10	24	4	900	21/4	59	45x31½	34	2700	800.00
15	24	4	900	21/4	59	45x31½	34	3000	950.00
15	30	4	720	21/2	70	55x35	34	3300	1750.00
20	30	4	720	3	70	55x35	34	3400	2000.00

			11	0 or	220	Volts, D.	C.		
				Cor	nstan	t Speed			
71/2	18	3	1160	2	-54	45x31½	34	2550	\$750.00
$7\frac{1}{2}$ $7\frac{1}{2}$	20	4	1160	2	56	45x31½	34	2650	800.00
10	20	4	1160	2	56	45x31½	34	2700	875.00
10	24	4	850	2	62	45x31½	34	3000	900.00
15	24	4	850	21/4	62	45x31½	34	3200	1075.00
15	30	4	675	21/4	70	55x35	34	3700	1875.00
20	30	4	675	3	70	55x35	34	4000	2175.00
				Va	riable	e Speed			
71/2	18	3	1700	2	54	45x311/2	34	2550	\$850.00
$7\frac{1}{2}$ $7\frac{1}{2}$	20	4	1700	2	56	45x311/2	34	2650	900.00
10	20	4	1700	2	56	45x31½	34	2700	1000.00
10	24	4	1700	2	62	45x31½	34	3000	1050.00
15	24	4	1700	21/4	62	45x31½	34	3200	1250.00
15	30	4	1350	21/2	70	55x35	34	3700	2200.00

34 4000

2500.00

30 4 1350 3 70 55x35 For ball-bearing exhaust blower add \$80.00.

Parish Chaser Grinders

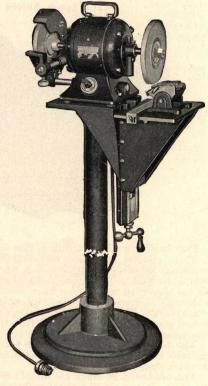
The Parish Chaser Grinder is designed to grind chasers from all makes of die heads, mechanical hand pipe stocks, and power pipe threading machines.

Personal instructions given by factory representative.

Price, Parish Chaser Grinder Stand...each \$88.00

Price, Black & Decker Grindereach 46.00

Price, Stand and Grinder Completeeach 134.00

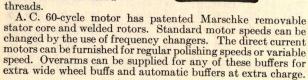


Black & Decker Buffers

Sturdy 4-bearing, totally enclosed machines.

Motor controlled by snap switch on 1-horsepower machines; all other sizes push-button control.

Spindles high carbon steel, with square threads, except on the 1 to 3-horsepower, which have standard



220,	44 Vhee	0 or 55	0 Vol	ts, 2	or 3	3-Phase	60	-Cycle	A.C.
	Vidtl In.			SPIND!	LE, IN. Lgth.	Base In.	Ht. In.	Wt.	Price Each
1 3	2 4	1800 or 1800 "		7/8	36	18x18	39	325	\$150.00
*5	4	1800 "	3600 3600	11/4	$52 \\ 53\frac{1}{2}$	23x20 23x20	39	600 650	275.00 350.00
**5 7½	4 6	1800 " 1800 "	3600	$\frac{1\frac{1}{2}}{1\frac{1}{2}}$	62 62	29x32 29x32	39 39	$\frac{1200}{1300}$	375.00 450.00
10	6	1800 "	3600	‡	64	29x32	39	1400	550.00
			110 o	r 220	Vol	ts, D.C			
3	4	1600 to		1	46	23x20	39	650	\$325.00
5	4		2400	11/4	60	23x20	39	750	450.00
71/2	6	1600 "		11/2	66	29x32	39	1350	550.00
10	6	1600 "		11/2	66	29x32	39	1450	675.00
*Ligh	t D	uty. **]	Heavy	Dut	y. ‡1	1/2 or 13	4 in	ches.	
Overar	m ç	on 3 and	5-Horsepow	sepov	ver Lig	tht Duty Macl	nines.	.each	\$80.00 100.00

Black & Decker Portable Electric Tappers

"With the Pistol Grip and Trigger Switch"



These machines are both complete with 3-jaw geared chuck and 15 feet of duplex electric cable fitted with attachment plug.

Black & Decker Portable Electric Tappers embody all of the well known and proven features of the Black & Decker Portable Electric Drills, including the Pistol Grip and Trigger Switch.

The mechanism is so designed that the tap chuck automatically reverses and backs the tap out of the threaded hole when operator gives a backward pull on the machine. No reversing switch is needed.

The Control of the Co	No. 1	No. 2
Capacity in Cast Iron, Tapin.	5/16	3/8
" " Steel, Tap "	3/16	1/4
" Steel, Tap" " Brass or Aluminum, Tap"	5/16 3/16 3/8	1/4 1/2
No Load Speedr.n.m.	500	300
Net Weight pounds	61%	83/
Price, for 110 Volts each " 220, 250 or 32 Volts "	\$58.00	\$78.00
" " 220, 250 or 32 Volts"	62.00	82.00
Price, Special Speed of 500 or 700 R.P.M.		
Supplied ateach	5.00	5.00
Price, 3 Wire Cable Permitting Ground Con-		
nection, Extraeach	2.50	2.50

No. 1 fits Black & Decker 1/4-inch bench drill stand.

No. 2 fits Black & Decker 5/6-inch bench drill stand.

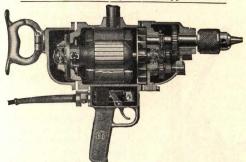
Twist Drill Sizes

The following table indicates the correct sizes of twist drills to use for drilling holes for any size of tap within the range of the Nos. 1 or 2 Electric Tapper:

Tap Size In. 1/16 1/16 5/64	No. Th'ds per In. 64 72 60	Size Drill 364 364 1/16	Tap Size In. 7/32 7/32 15/64	No. Th'ds per In. 24 32 24	Drill 16 12 10	Tap Size In. 3/8 7/16 7/16	No. Th'ds per In. 27 14 20	Size Drill R U
5/64	72	52	1/4	20	7	7/16	$\frac{24}{27} \\ 12$	X
3/32	48	49	1/4	24	4	7/16		Y
3/32	50	49	1/4	27	3	1/2		27/64
7/64 1/8 1/8	48 32 40	43 3/32 38	1/4 1/4 5/16	28 32 18	3 7⁄ ₃₂ F	1/ ₂ 1/ ₂ 1/ ₂ 1/ ₂	$\frac{13}{20}$ $\frac{24}{24}$	27/64 29/64 29/64
9/64	40	32	5/16	20	17/64	1/2	$\frac{27}{12}$ $\frac{18}{18}$	15/ ₃₂
5/32	32	1/8	5/16	24	I	9/16		31/ ₆₄
5/32	36	30	5/16	27	J	9/16		33/ ₆₄
11/64	32	9/64	5/16	32	9/32	9/16	27	17/ ₃₂
3/16	24	26	3/8	16	5/16	5/8	11	17/ ₃₂
3/16	32	22	3/8	20	21/64	5/8	$\begin{array}{c} 12 \\ 18 \end{array}$	35/64
13/64	24	20	3/8	24	Q	5/8		37/64

Black & Decker Portable Electric Drills

With the Pistol Grip and Trigger Switch



The Black & Decker Portable Electric Drill is designed and constructed for drilling metal or wood and is husky and serviceable throughout.

The pistol grip and trigger switch enables the operator to

control the tool like an automatic pistol.

The Black & Decker Drill is light in weight and well bal-anced. Cord is easily renewed. Commutator and cover is independent of bearings. Has stub tooth gears of chrome nickel steel heat treated. No gears run on studs. Full ventilation is provided. Cooling air circulates around outside of motor field as well as through gap due to hexagonal body design. All parts are unusually accessible and are interchangeable. Grease lubrication throughout.

The motor is the multipolar type and is unusually powerful. Armature and field are built up of insulated sheet steel laminations of high permeability, series compensated wound, and any of the Black & Decker Drills will operate on direct current or 25, 40, 50 or 60-cycle alternating current, or on any two wires of a 3-phase circuit. They will operate satisfactorily on voltages 10 per cent over or under the circuits for which

they are designed.

Its adaptability makes it particularly serviceable in garages, service stations and office buildings.

Black & Decker 1/4-Inch Standard Ball Bearing Electric Drills

With the Pistol Grip and Trigger Switch

Operates on a.c. or d.c. Light in weight, serviceable and durable. Capacity in steel up to ¼ inch; capacity in hardwood up to ¾ inch; no load speed 2000 r.p.m; net weight, 6 pounds. Drill is furnished complete with Jacob 3-jaw geared chuck, 15 feet of duplex electric cable fitted ment plug and retested resulted with the second with attachment plug and patented moulded rubber cord protector. Price, for 110 Volts.....each \$36.00
Price, for 220, 250 or 32 Volts....each 40.00
Price, Extra for Grinding Quufit, Consisting of Stand, Arbor and Grinding Wheel each Extra for 3-Wire Cable Permitting Ground Connection. 2.50

Black & Decker 1/4-Inch Heavy-Duty Portable Electric Drills

With the Pistol Grip and Trigger Switch

Operates on A.C. or D. C. Capacity in steel, 0 to 1/4 inch; in wood, 0 to 3% inch. No-load speed, 2500 r. p. m. Net wt., 7 lbs.; shipping, 8 lbs. Designed for continuous production work and for all types of maintenance work where heavy-duty performance is required. Furnished complete with heavy-duty, 3-jaw geared chuck for straight shank drill bits up to ¼ inch. With 15 feet of duplex electric cable fitted with attachment plug. Price, for 110 Volts. each \$44.00
" 220, 250 or 32 Volts "48.00 " Bench Drill Stand for Heavy-duty 1/4-inch Drill.....each 14.00

Black & Decker 5/16-Inch Portable Electric Drills

With the Pistol Grip and Trigger Switch

Operates on a.c. or d.c. Capacity in steel, 0 to \(^{5}\)\(_{6}\) inch; no load speed, 1400 r.p.m.; net weight, 7 pounds. Full ventilation. Cooling air circulated around outside of motor field as well as through gap due to hexagon-



al body design. An extreme rigidity is due to the hexagonal body design. Furnished complete with three-jaw chuck for straight shank drill bits Extra for 3-Wire Cable Permitting Ground Connection

Black & Decker 3/8-inch Portable **Electric Drills**

With the Pistol Grip and Trigger Switch

Capacity in steel, & to 3/8 inch; no load speed, 900 r.p.m.; net weight, 14 pounds.

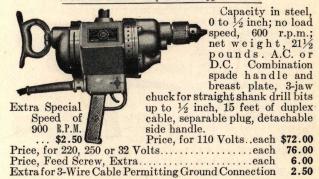
Furnished with com-bination spade handle

and breast plate, three-jaw chuck for straight shank drill bits up to 3% inch, 15 feet of duplex electric cable and separable attachment plug.

	Operates on D. C. or A. C.	
Price,	for 110 Voltseach	\$64.00
**	" 220, 250 or 32 Volts "	68.00
"	Special Speed of 1500 R.P.M., Extra"	2.50
Extra	for 3-wire Cable Permitting Ground Connection	2.50

Black & Decker 1/2-Inch Heavy Duty Portable Electric Drills

With the Pistol Grip and Trigger Switch



Black & Decker %16-Inch Portable **Electric Drills**

With the Pistol Grip and Trigger Switch



Capacity in steel, ½6 to % inch; no load speed; 600 r.p.m. ne t weight, 21 pounds.

Furnished complete with combination spade handle and breast plate. No. 1 Morse Taper Removable Socket

for taper shank drill bits 1/6 to 9/6 inch, 15 feet of duplex electric cable, separable attachment plug and detachable side handle. Operates on a.c. or d.c.

Price, for 110 Veltseach	\$72.00
Price, for 220, 250 or 32 Voltseach	76.00
Price, Feed Screw, Extraeach	6.00
Extra for 3-Wire Cable Permitting Ground Connection	2.50

Black & Decker 5/8-Inch Heavy Duty Portable Electric Drills

With the Pistol Grip and Trigger Switch

A.C. or D.C. For maintenance and production work. Capacity in steel, 1/8 to % inch; no load speed, 475 r.p.m.; net weight, 22 pounds. Combination spade handle and breast plate, 3-jaw chuck for straight shank drills up to ½ inch, 15 feet of duplex cable, separable plug, detachable side handle.

.....each \$78.00 82.00

Black & Decker 5/8-Inch Special Ball Bearing Portable Electric Drills

With the Pistol Grip and Trigger Switch

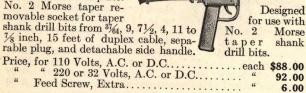


Black & Decker 1/8-Inch Portable Electric Drills

With the Pistol Grip and Trigger Switch

Capacity in steel, 1/6 to 1/8 inch; reaming capacity in steel, 1/16 to 7/16 inch; no load speed, 350 r.p.m; net wt., 25 lbs. Combination spade

handle and breast plate. No. 2 Morse taper removable socket for taper



Black & Decker Bench Drill Stands



The quarter-inch electric drill can be converted, in a few seconds, into a handy bench drill. Drill bracket has vertical and horizontal adjustment.

Morse

shank

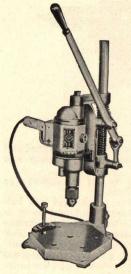
92.00

6.00

Accommodates quarter-inch drill only; can also be used with the No. 1 electric screwdriver for driving screws in production work handled on the bench. Net weight without drill, 14 pounds.

Price.each \$12.00 Price, Stand for 1/4-inch

Heavy Duty and 1/6inch Drill and No. 2 Screwdriver ... each 14.00 Black & Decker No. 1 Bench **Drill Stands**



The Black & Decker Bench Drill Stand makes a rigid and serviceable drill press out of a portable electric drill in just a few minutes.

Takes 36, Special ½, Heavy Duty ½, %, 56 and ½-inch Black & Decker Portable Electric Drills, which can be quickly and easily attached and detached.

Bracket carrying drill can be raised or lowered on vertical column. Drill may be swung clear of base, making it possible to use this bench drilling stand for such work as applying ring gears of automobile axles, drilling in the ends of axle shafts, and other work too high to be drilled on the bench. Adjustment by means of clamping screw.

Shipped complete with adapter block to take Special 1/2-inch type drill. If desired for use with %, Heavy Duty ½, %, 5% or %-inch drills, the size and type as shown on the nameplate should be specified.

Net weight of stand without drill, 50 pounds.

When the bench drill stand complete with the portable electric drill is desired, this should be specified and the price of the drill added to the price of the stand.

Price.....each \$28.00

Black & Decker No. 1 Post Drill Stands

Designed especially for the purpose of adapting the Black & Decker Electric Drill for use as a drill press for heavy drilling or precision work.

Takes 3/8, Special 1/2, Heavy Duty 1/2, 9/6, 5/8 and 1/6-inch drills, which can be quickly attached and detached.

Bracket carrying drill can be raised, lowered or swung around on vertical column to any desired position. Table can also be raised, lowered or swung around on vertical column.

Particularly adapted to shops where bench space is limited, as it can be bolted to a post or the wall.

Net weight of stand without drill, 75 pounds.

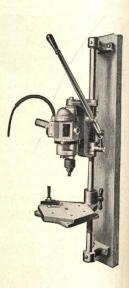
Shipped lagscrewed to board, $1\frac{3}{4}x5\frac{1}{2}x52$ inches.

Standard brackets hold vertical column of post drill stand 5 inches from the post or wall.

In table are six tapped holes to accommodate 1/2-inch studs, used to clamp work in place. One stud with nut and clamp is supplied with stand.

Shipped complete with adapter block to take Special 1/2-inch type drill. If desired for use with 3/8, Heavy Duty 1/2, 9/6, 5/8 or 1/8-inch drills, the size and type as shown on the nameplate should be specified.

Price.....each \$32.00



Black & Decker Electric Screwdriver and Socket Wrench

"With the Pistol Grip and Trigger Switch"



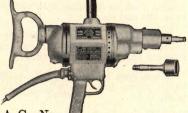
Has a clutch to prevent breaking screws or bolts by drawing up too tight.

Complete with 15 feet of duplex electric cable with attachment plug and two screwdriver bits. No. 1 is capable of driving a No. 12 wood screw 2 inches long in hardwood; No. 2 of driving a No. 16 wood screw 31/4 inches long in hardwood. Reversing switch, extra \$10.00.
Operates on a.c. or d.c. No load speed 500 r.p.m.

Black & Decker Electric Screwdriver and Socket Wrench

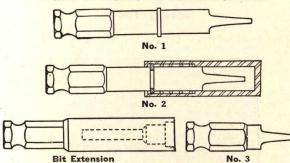
"With the Pistol Grip and Trigger Switch"

For lag screws and nuts. Complete with 15 feet of duplex electric cable attachment plug, combination spade handle and breast plate, side handle, one hexagon socket wrench with renewable head.



Operates on D. C. or A. C. No load speed 500 r.p.m. Reserving switch, extra \$10.00.

Black & Decker Screwdriver Bits



Bits interchange on No. 1 type D, No. 2 type E and No. 3 type B and C Black & Decker Electric Screwdrivers.

No. 1

Standard bit without centering sleeve. Projects 21/2 inches from chuck. Made in the following sizes: Nos. 4, 6, 8, 10, 12, 14, 16, 18, 20. For driving flat head screws of corresponding numbers. For round head screws use bit one size smaller. Price, No. 1.....each \$1.00

No. 2

Standard bit with centering sleeve. Same sizes as for No. 1. Price, No. 2.....each \$2.00

No. 3

Short bit that projects 1 inch from chuck. To be used where space is limited. Same sizes as for No. 1. Cannot be furnished with centering sleeve. Price, No. 3.....each \$1.00

Screwdriver Bit Extensions

Extensions accommodate standard bits shown in illustration above. Price, 8, 10 or 12-Inch Length.....each \$3.00 14, 16, 20 or 24-Inch Length..... "

Attachments for Black & Decker Portable **Electric Drills**

No. 1 to 2 Morse Taper Sieeves

With this sleeve the Black & Decker 1/8-inch Portable Electric Drill may be used with drill bits having No. 1 Morse Taper Shanks. Price, No. 1 to 2.....each \$1.80

No. 3 to 4 Morse Taper Sleeves

With this sleeve the Black & Decker No. 8 Portable Electric Drill may be used with drill bits having No. 3 Morse Taper Shanks. Price, No. 3 to 4.....each \$3.00

No. 1 Morse Taper Arbors with 1/2-inch Chuck

This arbor makes it possible to use the Black & Decker %-inch Portable Electric Drill with straight shank bits up to ½ inch. Price, No. 1.....each \$8.75

No. 2 Morse Taper Arbors with 5%-inch Chuck

Arbor makes it possible to use the Black & Decker 1/8-inch Portable Electric Drill with straight-shank drill bits up to 5/8 inch. Price, No. 2.....each \$8.75

Feed Screws



Used to obtain feeding pressure greater than obtainable by body pressure, or for obtaining feeding

pressure in restricted places.

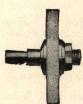
Price, To Fit Special ½
inch Heavy Duty ½, 58, %
and ⅓-inch Drills each
Price, to Fit No. 8 Drillseach 12.00

12 or 24-inch Chuck Extensions

For work that would be otherwise inaccessible, such as the installation of snubbers on automobiles. Can be used with Black & Decker Portable Electric Drills of 1/2 inch and larger sizes. Takes straight shank bits up to ½ inch.

Extension without Chuck.....

Grinding Wheel Arbors



The use of this arbor makes it possible to do light grinding and buffing with the Black & Decker ¼-inch Drill, ¼-inch Heavy Duty or ½-inch Portable Electric Drill. The arbor is ½ inch in diameter with ¼-inch shank, and the grinding wheel, wire wheel or rag buffing wheel is held securely by means of a nut. Price.....each\$1.00

No. 90 Lunkenheimer Regrinding Compound

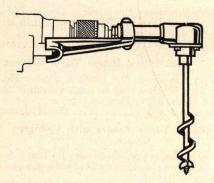
Ready for immediate use, and not only gives assurance of effective abrasive properties, but avoids the time incident to the preparation of a suitable mixture, even if the proper raw materials were available. It is regularly furnished in ¼ and 2-ounce collapsible tubes, which are procurable girely or in centens containing twelves. singly or in cartons containing twelve 2-ounce tubes or one hundred ¼-ounce tubes, and in one, two or five-pound cans.



	[2] 전경 등이 전체 프리트 시간 (10) 1 (20) (20) (10) 1 (20) (20) (20) (20) (20) (20) (20) (20)	
Price,	1/4-ounce Single Collapsible Tubes each	\$.35 .65
	Z	The second secon
"	Carton Containing 12-2-ounce Tubes	6.50
"	Carton Containing 12-2-ounce Tubes " 100-1/4 " " "	30.00
"	1-pound Cans	1.25
"	2 " " "	2.25
u	= " " "	5 00



Black & Decker Right Angle Drilling Attachments



This attachment can be used with electric drills of ½-inch capacity or greater.

This attachment makes it possible to drill holes through floor joists or studding, and to get at places ordinarily inaccessible with an electric drill.

This attachment is fastened in the chuck of the electric drill and an adjustable torque arm is provided to hold the wood boring bit at any desired angle with relation to the electric drill to meet varying conditions.

Equipped with chuck to hold standard bit-stock shank wood boring bits.

Cat. No.	Description	Price Each
5957	Right Angle Drilling Attachment	\$15.00
6222	Equipped with 3-jaw Geared Chuck of 1/2-inch	
	Capacity	20.00

Syntron Motorless Electric Hammers



The Syntron Electric Hammer is designed for drilling through brick, concrete or masonry; drilling holes for expansion bolts; chipping and cracking stone; driving rivets; light assembly work of all kinds; squaring or breaking up stone and pavements; calking pipes, tanks, plates, etc.; vibrating, and for any purpose where rapid strokes of a hammer can be used.

A self-contained, complete-in-self hammer drill, independent of motors, compressors, air tanks, engines, hose, valves, etc., one man can easily carry and operate it.

valves, etc., one man can easily carry and operate it.

There are three standard types for general use, F, A and B.

Special types, both larger and smaller, are developed to suit special needs for drilling, hammering, or vibrating. Handle is of pistol grip type, with a trigger underneath forefinger to start and stop the hammer.

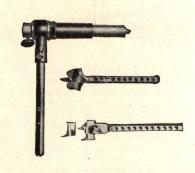
The tools furnished with these hammers are of the highest quality obtainable. Rugged carrying cases provide compact storage space for hammer, tools and all accessories, as well as a convenient means of carrying the outfit.

Each outfit is furnished complete with two carrying cases, 50-foot extension line with fixtures, rotating wrench and drill chuck. The hammer, control box, cords and tools can be furnished individually if desired.

When ordering state voltage and frequency of current, also kind of work to be done.

Type F	Over All Lgth., In.	Diameter Inches	Weight Pounds	Price Each
F	11	31/2	9	
A	13	4	17	
B-4	131/4	5	26	

Toledo Ratchet Boring Tools



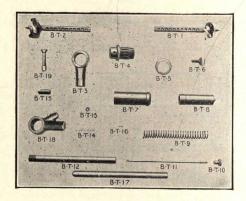
This tool readily bores holes through joists, beams and other wood members of buildings where the parallel or adjoining timbers interfere with the use of the brace and bit, or mallet and chisel.

It enables the operator to run pipe through cleanly bored holes, does its work rapidly and easily, and saves all the strength of weight carrying timbers.

It has been found especially valuable in remodeling jobs where piping has had to be installed in structures already built.

Price,	Bor	ing T	ools,	without	Bits	3	 	each	\$15.00
"	$2\frac{1}{2}$	-inch	Bits,	Extra.			 	"	6.00
"	2	"	"	"			 	"	4.50
"	11/2	"	"	"			 	"	3.00
	1	"	"	"			 	"	2.20
"	11/4	to 2	6-inc	h Expan	sion	Bits		"	9 00

Repair Parts for Toledo Ratchet Boring Tools



No.	Description	Price Each
	Ratchet Handle, Complete (Not Illustrated).	\$3.00
BT-1	1½ to 2½-Inch Expansion Bit	9.00
BT-2	Solid Bits, 2½-Inch Size	6.00
	Solid Bits, 2-Inch Size	4.50
	Solid Bits, 1½-Inch Size	3.00
	Solid Bits, 1-Inch Size	2.20
BT-4	Chuck	2.50
BT-6	Thumb Screw	.20
BT 7	Outer Barrel	4.00
BT-8	Inner Barrel	4.50
BT-9	Main Feed Spring	.50
BT-17	Ratchet Head and Handle, Only	2.00
BT-19	Ratchet Pawl, Complete	
DI-19	ttatenet Tawi, Complete	1.10

Reed Malleable Iron Pipe Stocks Fitted with Reed Q and E Dies



A set consists of stock complete with assortment of dies and guides as listed, each set packed in a water-proofed fibre-board shelf box.

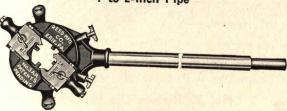
Handles are polished and have rounded ends.

Guides are machined inside and outside.

Nominal dimensions of dies: No. OSP1, 2x2x½ inch; Nos. 1SP1 to 1SP5 2½x2½x¾ inch; Nos. 1½SP1 to 1½SP5, 3x3x¾ inch.

			PRICE, EACH	
	Dies	Com-	Extra	Extra
No.	Inches	plete	Dies	Guides
0 SP1	1/8, 1/4, 3/8, 1/2	\$8.00	\$1.40	\$.30
1 SP1	14, 3/8, 1/2, 3/4, 1	10.50	1.60	.40
1 SP2	1/8, 1/4, 3/8, 1/2, 3/4, 1	12.00	1.60	.40
1 SP3	1/8, 1/4, 3/8, 1/2, 3/4	10.50	1.60	.40
1 SP4	1/2, 3/4, 1,	7.50	1.60	.40
1 SP5	38, 1/2, 3/4, 1	9.00	1.60	.40
1½SP1	34, 1, 114	9.50	2.00	.60
1½SP3	14, 38, 12, 34, 1, 114	15.50	2.00	.60
1½SP5	1/2, 3/4, 1, 11/4	11.50	2.00	.60

Reed Ratchet Pipe Stocks and Dies 1 to 2-inch Pipe



No. 3AR

A new and improved type of Ratchet Die Stock, which has no lead screw, hence: The action is not restricted to any one thread pitch. There is a wide range of threads, both right and left hand. No time nor effort is wasted in turning up set screws to attach lead screw to pipe, nor in turning stock against the friction of a lead screw.

Has telescopic handle to increase leverage, making easy work of cutting threads on large sizes or on extra hard pipe. Has two pawls, giving a finer ratchet action equivalent

to twice the number of teeth, so there is no lost motion. Full length chasers of dies cut straight, accurate threads and give long service. Fine double threaded throats in dies start easily and positively over any burr without filing. Dies are of a size not easily lost and are held by new and improved clamp screws, which make changing dies the work of but 10 seconds.

Simple in design, substantial in construction, with but few parts, none of which are delicate or complicated or liable to break or get out of adjustment.

Equipped with either solid or adjustable type dies.

With Adjustable Dies

		cii Aujustavie	Dies	
	PIPE DIE	s, Inches	PRICE.	EACH
No.	Regular Set	Extra Dies	Regular Set	Extra Dies
3AR	1 to 2	½ to 2	\$30.00	\$4.50
	W	ith Solid Die	es	
2SR	1 to 2	½ to 2	\$30.00	\$2.50

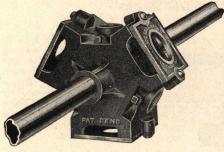
Reed Bushings or Guides

Every Reed Bushing is turned, faced and bored.

No.	Price Each	No.	Price Each
0SP	\$.30	2SP	\$.75
1SP	.40	3SP	2.00
11/2SP	.60	4SP	2.00



Nye Three-way Die Stocks



This stock is a one-piece casting containing 3 die boxes and 3 bushings. Regularly equipped with No. 1 Nye Dies, ½, 34 and 1 inch. Can also be furnished with smaller size dies when spedies when spedie

cified.	Size of dies, $2\frac{1}{2}x^{2}$ inch.	A CALLERA
Price,	Size of dies, $2\frac{1}{2}x2\frac{1}{2}x\frac{3}{4}$ inch. Complete with $\frac{1}{2}$, $\frac{3}{4}$ and 1 Inch Dieseach $\frac{x}{3}$, $\frac{3}{2}$, $\frac{3}{4}$, $\frac{x}{4}$, $$	\$15.00
· · ·	" " 3/8, 1/2 " 3/4 " " "	15.00
"	Extra Dies "	3 00

Nye Improved Solid Dies



The Nye patented feature of removing every alternate tooth in the back of the die to reduce friction, and of relieving or backing off each chaser, is used in the Nye Solid Die. It is hardened and tempered in oil

No	Dimensions of Dies, Inches	Size Dies Inches	Price Each
0	2 x2 x ½ 2½x2½x ¾	1/8, 1/4, 3/8, 1/2 1/6, 1/4, 3/6, 1/6, 3/4, 1	\$2.75 3.00
1½ and 1¾ 2	3 x3 x 3/4 4 x4 x 7/8	1/8, 1/4, 3/8, 1/2, 3/4, 1, 11/4, 11/2, 3/4, 1, 11/4, 11/2, 2	
4	5 x5 $x1\frac{1}{4}$	2½, 3	15.00

Dies are made in both Briggs (American) and Whitworth (English) Standard. Right hand and the Briggs Standard dies furnished unless otherwise specified.

Reed Q and E Dies



Cutting chasers are of tool steel, welded into a base of less expensive metal.

To secure maximum cutting efficiency chasers are set at an unequal angle with pipe to be cut, giving the cutting action of a lathe. Thus, the metal is cut or shaved off, instead of

being scraped off. Right hand Briggs threads furnished unless otherwise specified.

Dies are made both right and left hand, and in Briggs and Whitworth threads.

11 1110110	i our our comes.		
N.	Dimensions	Sizes, Inches	Price
No.	Inches	Right or Left	Each
OSP	$2 \times 2 \times \frac{1}{2}$	$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, or $\frac{1}{2}$	\$1.40
1SP			O STATE OF THE PARTY OF
	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $\frac{3}{4}$	$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ or 1	1.60
11/2SP	$3 \times 3 \times \frac{3}{4}$	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$	2.00
2SP	4 x4 x 7/8	$\frac{1}{2}, \frac{3}{4}, 1, \frac{11}{4}, \frac{11}{2} \text{ or } 2$	2.50
3SP	5 x5 x11/4	21/2 and 3	9 00

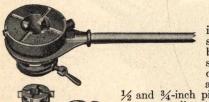
No. 3 Beaver Junior Ratchet Die Stocks



Consists of a ratchet handle holding separate heads for each size die. Ratchet mechanism entirely encased in head. Right or left hand as specified.

reight of for hand as specified.	
Threads Pipeinches	1/6 to 1
Price, No. 3, 1/8 to 1, Complete each	\$24.00
Price, No. 3, 1/4 to 1, Completeeach	21.00
Price, No. 3, 3/8 to 1, Completeeach	18.00
Price, Extra Dies (4 Chasers) Any Size Rangeeach	2.50
Price, Die Heads, 1/8, 1/4 or 3/8-Incheach	3.00
Price, Die Heads, ½ or ¾-Incheach	3.50
Price, Die Heads, 1-Incheach	4.00
Price, Ratchet Handle Onlyeach	4.00

No. 4 Beaver Easy Working Ratchet Die Stocks



Threads 1 to 2-inch pipe using separate dies and bushings for each size pipe. Range can be increased by adding die heads for

½ and ¾-inch pipe. Dies are the narrow receding type that ease the labor as the thread is cut.

No. 6 Beaverette Easy Working Die Stocks

Threads all four sizes, ¼ to ¾-inch, without changing dies or bushings. A thread may be cut while changing dies in other tools. The two sets of dies covering the different thread pitches are held in one plate, instantly adjusted to any size by the single handle.



A universal centering device does away with loose bushings.

The No. 6 is a compact tool, complete without loose parts. Right or left hand, as specified.

Price, No. 6, Complete......each \$15.00
" Extra Dies, R. or L., ½ or ¼ x ¾ or ½ x ¾
Inchesper set 3.00

No. 25 Beaver Easy Working Die Stocks



Threads all sizes 1, 1½, 1½ and 2-inch, or variations from standard, without changing dies. A universal chuck centers all sizes. No loose bushings.

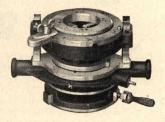
Close nipples may be cut with this tool. Instantly adjusted—simply shift the handle to size and the tool is ready. It

uses narrow receding dies that draw back with each turn, removing less and less metal, thus cutting a standard taper thread and easing the work as the thread is cut.

Price, No. 25, Complete. each \$30.00 Price, Extra Dies, $1, 1\frac{1}{4}, 1\frac{1}{2}$ and 2-inch₂ R. H.per set 3.50

No. 26 Beaver Easy Working Ratchet Die Stocks

Threads all sizes, 1, 1½, 1½ and 2-inch, without changing dies. Provided with ratchet attachment for cutting in confined places, or can be used as a regular stock. Contains a universal chuck which means pipe is always straight, without grip screws or bushings to bother.



Uses detachable leader screw. The ideal tool for threading in confined places or at the bench.

Price, No. 26 Complete.....each \$35.00 Price, Extra Dies, 1, 11/4, 11/2 and 2-inch, R.H. per set 3.50

No. 41 Beaver Die Stocks



Threads sizes, 2½, 3, 3½ and 4-inch, or variations from standard without changing dies.

Gears are cut steel and covered which protects tool and operator. No dies to look for—they are all in the tool. Threads are easily cut on pipe in a ditch as well as at the bench. Driving pinion rigidly supported on both ends.

Has bushings and grip screws.

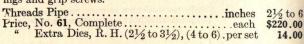
Threads Pipe inches 2 Price, No. 41, Complete each \$ "Extra Dies, R.H. per set	\$110.00
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No. 61 Beaver Die Stocks

Two sets of dies are used to cover the unusually large range. One set cuts $2\frac{1}{2}$, 3 and $3\frac{1}{2}$ -inch, and the other cuts 4, $4\frac{1}{2}$, 5 and 6-inch.

Can be used in a ditch or at the bench.

Bearings are bronze bushed. Driving pinion rigidly supported on both ends. Has bushings and grip screws.



No. 80 Beaver Die Stocks



Uses two sets of dies; one set, $4\frac{1}{2}$ to 6, the other, 7 to 8 inches.

The dies are made with wings which hold them rigidly without interfering with the adjustment.

The main body of the tool is steel, all parts made inter-

changeable. All bearings are bronze bushed.

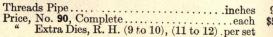
Threads Pipeinches	41/2 to 8
Price, No. 80, Completeeach	\$300.00
" Extra Dies, R. H. (4½ to 6), (7 to 8). per set	20.00

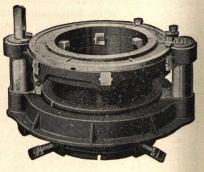
No. 90 Beaver Die Stocks

Dies are made with wings which hold them rigidly without interfering with the adjustment.

The main body of the tool is steel, and all parts are made interchangeable.

Uses two sets of dies, one set 9 to 10 inches, the other, 11 to 12 inches.





9 to 12 \$500.00 30.00

No. 44 Beaver Power Drives

Motor Driven

Range, 1/4 to 6 Inches







Chuck the Pipe as in a Vise

Uses any Make of Die Stock





Makes up Fittings in the Machine

Cutter



Showing Portability

Cuts, reams and threads pipe and makes up fittings without removing the pipe from the machine. Uses any make of hand tools—converts them into power machines.

The tools revolve, the pipe stands still, thus making it easy to start the tools on the pipe, facilitating oiling, and leaves no revolving tools to endanger workmen.

Threads bolts from ¼ to 2 inches. Range in the machine ¼ to 2 inches; extended to 6 inches for threading and 12 inches for cutting by using universal shaft to drive geared cutters and threaders.

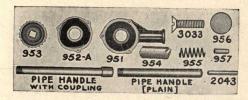
Chuck the pipe as in a vise, then turn on the current. Operates from a light socket. Uses ½-horsepower heavy duty motor.

Sturdy and simple in construction. Easily portable. Base of machine, 18x13 inches; height, 20½ inches; weight, 230 pounds.

Price, with 110-220-Volt A.C. 60-Cycle,	Single-	
Phase Motor	each	\$350.00
Price, with 115 or 230-Volt D.C. Motor	"	355.00
" Legs, Extra, 3 Pieces and Bolts	"	10.00
" Universal Shaft, Extra	"	40.00

Prices of machines with A.C. motors of odd frequencies, upon application.

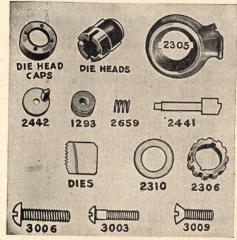
Repair Parts for Beaver Operating Ratchets For Nos. 41, 61, 80, 90, 91, 106, 108 and 112 Beaver Die Stocks and Pipe Cutters



Part No.	Name of Part	Price
		Each
951	Ratchet Frame (with Disc, Key, and Pin).	\$3.50
952A	Ratchet Cover	1.00
953	Ratchet Wheel	1.60
954	Ratchet Pawl	.40
955	Ratchet Pawl Spring	.10
956	Ratchet Disc	.05
957	Ratchet Pawl Key	.05
1936	Pipe Handle with Coupling	1.25
1937	Pipe Handle (Plain)	.75
2043	Ratchet Dowel Pin	.05
3033	Ratchet Cover Screws each	.05
Operati	ing Ratchet Complete With Handles	9.00

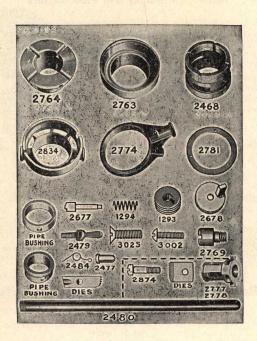
Repair Parts for No. 3 Beaver Ratchet Die Stocks

1/8 to 1 Inch



Part		Price
No.	Name of Part	Each
1293	Ratchet Pawl Nut	\$.10
2305	Drive Ring	2.00
2306	Ratchet Wheel	1.00
2310	Wheel Ring	.60
2339	Pipe Handle	.60
2441	Ratchet Pawl	.20
2442	Ratchet Pawl Washer (with Pin).	.20
2659	Ratchet Pawl Spring	.05
3003	Screws for \frac{1}{8} to \frac{3}{4} Die Caps each	.03
3006	Screws for 1 Inch Die Caps each	
3009	Wheel Ring Screws each	.03
0000	1/8 No. 3392) (1/4 No. 2684) (3/8 No. 2333)	.05
Die	11/ No. 9990) (3/ No. 2004) (% NO. 2555)	1.50
Heads	1½ No. 2329) (¾ No. 2325) (1 Inch No. 2307)	1.50
neaus		2.00
	For 3/4 Brass Pipe No. 2329-A).	2.00
Die	(1/8 No. 3393) (1/4 No. 3394) (3/8 No. 2334)	.50
Head	1½ No. 2330) (¾ No. 2326)	.70
Caps	1 Inch No. 2308)	.80
capa	For 3/4 Brass Pipe No. 2330-A)	.80
	Per Single Set	2.50
Dies	Specify Size wanted; and whether Right or	The same
P. CO.	Left Hand; and whether British or Ameri-	
	can thread.)	

Repair Parts for Nos. 4 and 23 Beaver Die Stocks

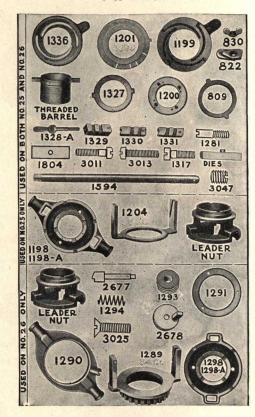


Parts for Both Nos. 4 and 23

Part No.	Description	Price Each
2468 2477 2479	Leader Nut. Die Spring Pins. Grip Screw with Handle.	\$3.00 .03 .60
2480 2484 2764	Pipe Handles Die Springs Die Head	.75 .03 5.00
2769 2777 2778	Drive Screw	.30 3.00 3.00
2874 3002 2476	Die Screws (for above)	.04 .03 .60
2475 2474 2667	Pipe Bushing, 1¼ Inches	.60 .60
2472 2471 2470	Set Dies, 1 Inch, Right Hand Only	3.00 3.00 3.00
2469 2780 2779	Set Dies, 2 Inches, Right Hand Only	3.00 3.00 3.00
	Parts for No. 4 Only	
1293 1294 2677	Ratchet Pawl Nut	\$.10 .05 .20
2678 2763 2774	Ratchet Pawl Washer with Pin	4.50
2781 3025	Ratchet Retaining Ring	.50
	Parts for No. 23 Only	
2834	Die Housing	\$4.50

Repair Parts for Nos. 25 and 26 Beaver Die Stocks

1 to 2 Inch

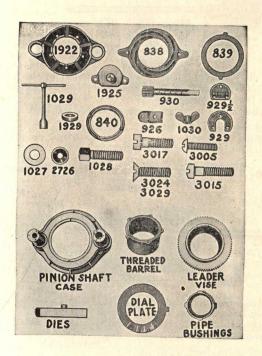


For Both Nos. 25 and 26

Part No. 809 822 830 1199 1200 1274 B 1281 1317 1328A 1330 1331 1336 1594 3011 3013 3047 1321 B	Name of Part Retaining Ring. Cam Clamp Wing Nut Die Cam with Stud and Pin Top Plate with Adjusting Screws (Screws No. 3047) Dial Plate with Pin Threaded Barrel—Right Hand Threaded Barrel—Left Hand Side Post Stop Pins Barrel Screws. Bottom Collar Grip Screw with Handle. Grip Guide Block No. 1 Grip Guide Block No. 2 Grip Guide Block No. 3 Guide Cam Pipe Handles. Bottom Collar Lock Bottom Col	Price Each \$.60
1198 1198A 1204 1325 1325B	Die Head—Right Hand. Die Head—Left Hand. Side Post Plate with Posts. Leader Nut—Right Hand. Leader Nut—Left Hand.	\$4.00 4.00 3.00 3.50 3.50
1241 1241B 1289 1290 1291 1293 1294 1298 1298A 2677 2678 3025	For No. 26 Only Leader Nut—Right Hand Leader Nut—Left Hand Ratchet Wheel with Posts Drive Ring Ratchet Retaining Ring Ratchet Pawl Nut Ratchet Pawl Spring Die Head—Right Hand Die Head—Left Hand Ratchet Pawl Rat Pawl Washer with Pin Rat. Retaining Ring Scseach	\$3.50 3.50 4.50 3.20 .60 .10 .05 4.00 4.00 .20 .20

Repair Parts for No. 41 Beaver Die Stocks

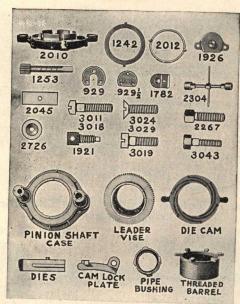
21/2 to 4-Inch



Part No. 8 Thread Pitch	Name of Part	Price
836 837 838 839	Leader Vise Pinion Shaft Case Die Cam with Studs and Pins. Retaining Ring	Each \$17.00 14.00 9.50 2.60
840 925 926 927	Top Collar. Dial Plate. Cam Clamps. each Dies, per Set.	2.60 4.50 .35 9.00
929 929 ¹ / ₂ 930 1027	Pinion Retaining Washer Pinion Shaft Case Washer Pinion Top Collar Washer	.60 .50 7.50
1028 1029 1030 1922	Grip Screws each Socket Wrench Wing Nuts each Die Head.	.60 1.60 .20 12.50
1924 1925 1929 2726	Threaded Barrel Pinion Support Barrel Key Washer Retaining Ring Washer	6.00 1.60 .05
3005 3015 3017 3024	Top Collar Washer Screw Barrel Screws	.03 .05 .08
3029 934	Screws for Parts 929-929½each Pipe Bushing 2½-Incheach	.03
933 932 1031	Pipe Bushing 3-Inch Pipe Bushing 3½-inch. Pipe Bushing 4-Inch.	1.80 1.80 1.80

For repair parts for oilwell casing thread tools, give name of part only and state thread pitch and taper.

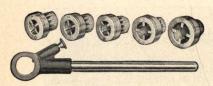
Repair Parts for No. 61 Beaver Die Stocks 2½ to 6-Inch



		Sept Total Sign
Part No. 8 Thread		
Pitch	Name of Part	Price Each
929	Pinion Retaining Washer	\$.60
9291/2	Pinion Shaft Case Washer.	
1242	Retaining Ring	3.50
1243	Pinion Shaft Case with Bearing Ring and	3.50
	Screws, 3/4 Taper	20 00
1244	Leader Vise	30.00
1253	Pinion	8.50
1781	Pinion. Cam Lock Plate, ¾ Taper.	1.60
1782	Cam Lock Nut with Pin	1.10
1921	Cam Stop Screw	.25
1926	Pinion Support	1.80
1927	Inreaded Barrel	12.00
2010	Die Head	28.00
2011	Die Cam	15.00
2012	Top Collar	3.50
2034	Set Dies, 2½-3½ Inches, American 8 Thread	20.00
2035	Set Dies, 4-6 Inches, American 8 Thread	20.00
XXXX	Set Dies, 24-34 Inches, British 11 Thread	20.00
XXXX	Det Dies, 4-0 Inches, British II Thread	20.00
2045	Top Collar Lock	.20
2267	Grip Screws each	.80
2304	Socket Wrench	2.20
2726	netaining King Washer	.20
3011	10p Collar Lock Screws each	.05
3018	Darrel Screws	.10
3019	Pinion Support Screws each	.10
3024	Retaining Ring Washer Screw	.03
3029	Screws for Parts 929-929½each	.03
3043	Cam Lock Screw	.10
XXXX	ripe busning 2½-Inch, used also on No 106	
1273	Cutter Pipe Bushing 2½-Inch, used also on No. 106	3.50
1273	Pipe Bushing 2½-Inch, used also on No. 106	
xxxx	Cutter	3.50
XXXX	Pipe Bushing 23/4-Inch, used also on No. 106	
1271	Cutter	3.50
1211	Pipe Bushing 3-Inch, used also on No. 106	
1270	Cutter	3.50
12.0	Pipe Bushing 3½-Inch, used also on No. 106	
1269	Cutter	3.50
.200	Pipe Bushing 4-Inch, used also on No. 106	
1268	Cutter	3.50
-200	Pipe Bushing 4½-Inch, used also on No. 106	
1267	Cutter Pipe Bushing 5-Inch, used also on No. 106	3.50
	Cutter	2 50
1266	Pipe Bushing 6-Inch, used also on No. 106	3.50
	Cutter	2 50
T		3.50

For repair parts for oilwell casing thread tools, give name of part only and state thread pitch and taper.

No. 00 Toledo Ratchet Pipe Threading **Devices**



Threads 1/8 to

3/4-inch pipe.
Die heads are instantly changed from one size to another by pulling ratchet pawl knob and allowing one

head to drop out and another in. Complete tool consists of ratchet handle and ½, ¼, ¾, ½ and ¾-inch die heads complete with r.h. dies, all packed in a strong carton.

Price, No. 00, Ship. Wt. 10 Lbsea	ch s	\$19	00
Price, Ratchet Onlyea	ch	3	00
Price, 1/8, 1/4, or 3/8-Inch Die Head with Diesea	ch		00
Price, ½ or ¾-Inch Die Head with Diesea	ch	3	50
Price, Dies, per Set of 4 Segments		2.	.00

No. 11 Toledo Ratchet Pipe Threading **Devices**



Threads ½ to 1¼inch pipe.

This tool is light and compact and reaches the most difficult corner job.

Die heads are instant-

No. 0 Toledo Adjustable Pipe Threading **Devices**



Threads 1/2 and 3/4-inch with one set of dies; 1/4 and 3/8inch threads with another set, and 1/8-inch threads with another set. Uses the recedingdie principle for threading 1/2 and

34-inch pipe, making it an easy operating tool. Light and compact, being only 24 inches long from tip to tip of the handles.

No. of Sets of Dies to Stock	3 .
Price, No. 0, Completeeach	\$16.00
" Dies per Set of Four Segments	2.50

No. 1 Toledo Adjustable Pipe Threading **Devices**

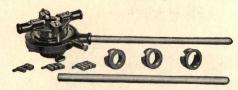
Threads 1 $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch pipe. With this device one man can easily cut 2-inch threads. The No. 1 has a minimum of working parts and is exceed-



ingly strong and durable. It is made both as a right-hand and a left-hand tool—neither will do both.

Right-hand is furnished unless otherwise specified. No. of Sets of Dies to Stock Price, No. 1, Complete each Dies, per Set of Four Segments.....

No. 1A Toledo Adjustable Ratchet Pipe **Threading Devices**



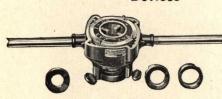
Threads 1. 11/4, 11/2, and 2-inch pipe; equipped with ratchet. The No. 1A may be used with two handles as an ordi-

nary die stock, or with one handle inserted in the ratchet case. It is desirable for threading pipe down a trench, or against walls, between rafters, etc.

Right-hand is furnished unless otherwise specified.

No. of Sets of Dies to Stock	4
Price, No. 1A, Completeeach	\$30.00
" Dies, per Set of Four Segments	2 50

No. 10 Toledo Adjustable Pipe Threading **Devices**



No. 10 threads the entire range of sizes from 1 to 2 inches with one set of dies.

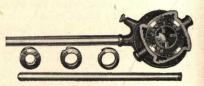
This tool is adjustable for cutting over or undersize threads as well

as standard. Furnished complete with right-hand dies. Left-hand dies can be used in this tool and can be furnished on special order. It requires, however, a separate set of lefthand dies for each size pipe. Shipping weight, 25 pounds.

No. of Sets of Dies to Stock	1
Price, No. 10, Complete each	\$28.00
Price, Dies, per Set of 4 Segments	2.75

No. 10A Toledo Adjustable Ratchet Pipe Threading Devices

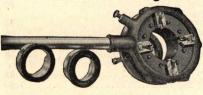
This tool threads the entire range of sizes from 1 to 2 inches with one set of dies and also has a ratchet attachment, making it desirable for use in restricted spaces.



Left-hand dies can be used and can be furnished on special order. It requires, however, a separate set of left-hand dies for each size pipe.

No.	Threads Pipe Inches	No. of Sets of Dies to Stock	Price Complete Each	Price, Die per Set of 4 Segments
10A	1 to 2	1	\$34.00	\$2.75

No. 1½R Toledo Adjustable Ratchet Threading Devices



A ratchet operated mechanism, light and compact, for threading 21/2 to 3-inch pipe, 8 threads to the inch. Also made as a special tool for threading oil well

tubing for 2, 2½ and 3-inch sizes, 11½ threads to the inch. In ordering, be sure to state whether the standard pipe thread tool or the special oil well tubing tool is desired.

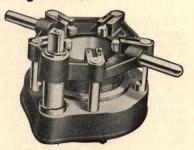
No. and	THREADS.	Inches	of Sets of Dies to	Ship.	Complete Price	Price Dies per Set	
Thread	THREADS, Pipe	Tubing	Dies to Stock			of 4 Segments	
1½R— 8 -thread	$2\frac{1}{2}$, 3		2	45	\$45.00	\$4.00	
$1\frac{1}{2}R-11\frac{1}{2}$ "		$2, 2\frac{1}{2}, 3$	3	47	50.00	4.00	

No. 2 Toledo Geared Adjustable Pipe Threading Devices

Threads 2½ to 4-inch pipe. This tool is light, compact easy to operate. and

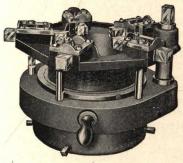
It takes only a few minutes to cut a thread with it, and it can be put on a pipe in most any place or position.

It is furnished complete with dies, ratchet and driving cross.



No. of Sets of Dies to Stock.	4
Price, No. 2, Complete.	\$100 00
Price, Dies, per Set of Five Segments	8.00

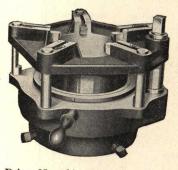
No. 25 Toledo Geared Adjustable Pipe Threading Devices



Threads 7 sizes of pipe, from 2½ to 6 inches inclusive with 1 set of dies. Die segments are mounted on heavy steel holders, which are pushed backward or forward, thus accommodating the dies to the several sizes of pipe. Extra set of dies, ratchet handle and driving cross are furnished with tool. Extra dies of 5 segments supplied at \$8.00 each.

Price, No. 25, Ship. Wt. 231 Lbs.....each \$230.00

No. 21/2 Toledo Geared Adjustable Pipe Threading Devices



Capacity 41/2 to 6-inch pipe, inclusive. Furnished complete with ratchet handle and driving cross.

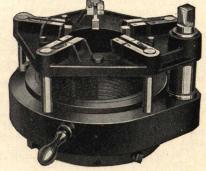
Uses separate set of dies for each size pipe and cuts perfect threads on either wrought iron or steel pipe.

Three sets of dies to the stock. Extra dies of 5 segments, \$12.00 each.

Price, No. 2½, Ship. Wt. 187 Lbs.....each \$200.00

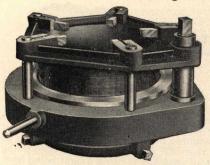
No. 3 Toledo Geared Adjustable Pipe Threading Devices

Light, compact and easy in operation. Strictly portable. One man can easily and quickly cut an 8-inch thread with it. Complete with dies, ratchet and driving cross.
Will thread pipe
from 4½ to 8-inch
diameter; 5 sets of dies supplied. Extra dies of 5 segments can be supplied for \$12.00 each.



Price, No. 3, Ship. Wt. 238 Lbs.....each \$300.00

No. 4 Toledo Geared Adjustable Pipe Threading Devices



For use in all fields where it is desirable and necessary essary to cut threads on large size pipe. Can be taken to the pipe anywhere. Complete with dies, ratchet and driving cross. Will thread, 9 10 and 12-inch pipe. Three sets of dies to the stock.

Extra dies of 5 segments, \$20.00 each.

Price, No. 4, Ship. Wt. 373 Lbs....each \$500.00

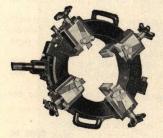
Toledo Ratchet Handles and **Driving Crosses**



Each of the geared Toledo tools is supplied, as part of regular equipment, with a ratchet handle and a driving cross.

In close quarters, the ratchet handle forms the means of operating the tools. The driving cross can be used by taking 2 or 4 suitable pieces of 1-inch pipe, threading same on one end and screwing them into the sockets, thus making a spider with which the tools can be converted officiently when there with which the tools can be operated efficiently when there is room to turn same.

Toledo Ratchet Geared Pipe Cutters



The Toledo Cutters are adapted for cutting off pipe from 21/2 to 12 inches in diameter.

The cutting is done by four knives which are fed by hand. Two of these knives are beveled across the edge and cut out a V-shaped section of the pipe; the other two knives are square and follow in the Vshaped cut and sweep out the edges, thus eliminating any tendency the knives mint have to bind in the cut.

It has been practically impossible to cut off extra heary or double extra heavy pipe with any previously existing hand cutter. These conditions do not affect the working qualities of the Toledo Pipe Cutter in any respect; it merely takes a longer time to cut through the walls of the extra heavy pipe than it does to cut standard pipe.

The tool is fastened to the pipe by a four-jawed chuck, each jaw being actuated independently and containing a set of size marks so the tool can be centered on the pipe quickly.

The knives are straight segments of special steel and can be readily reground. They make a clean, sharp cut, and will cut off a section of pipe only 1 ₁₆ inch long if necessary from end of

pipe.

The tool is driven by a pinion working on a bevel gear—the pinion being operated with a ratchet handle or the Toledo Power Drive.

Price is for complete cutter with ratchet handle.

No.	Capacity Pipe Inches	Shipping Weight Pounds	Price Each	Cutter Blades Price Set of 4
250	2½ to 6	121	\$80.00	\$3.20
300	4½ to 8	167	105.00	3.20
350	7 to 10	178	130.00	3.20
400	9 to 12	200	150.00	3.20

Toledo Power Drives



The Toledo Power Drive is a mechanism designed to operate Toledo hand pipe threading and cutting tools and other similar devices by electricity. It is approximately 6 feet long, over all; is mounted on wheels that are 18 inches in diameter; weight, from 230 to 255 pounds net, depending upon the type of motor used, the shipping weight being from 325 to 350 pounds. Equipment is portable and can be moved from place to place without any undue effort.



Threading 4-Inch Pipe with a Toledo

Motor on drive is started and stopped by a switch mounted on the shaft housing, and the power is transmitted to the driving head through a two-speed transmission gearing controlled by a knob handle projecting through the fuse box. On slow speed the driving head rotates at 38 revolutions per minute and at high speed at 57 revolutions per minute.

This drive is primarily designed for

No. 2 Tool Operated by Power Drive size of Toledo tools, threading and cutting off pipe from 2½ up to 12 inches. No change is necessary in the threading tool, the operating head of the power drive merely slipping on the pinion shank in place of the ratchet handle.

It is possible, however, to purchase a yoke casting and pair of short handles as the connecting means between the Toledo No. 1 and the Toledo Power Drive for threading 2-inch pipe and smaller sizes down to 1-inch.

Shipping weight, with 50 or 60-cycle a.c. motor, 318 pounds; with 25, 30 or 40 cycle a.c. or with d.c. motor, 363 pounds.

The price varies, depending upon the type of motor required

Price, with 50 or 60-cycle A.C. or with D.C. Motoreach \$600.00 Price, with 25, 30 or 40-cycle A. C. Motor. each Price, Special Attachment for No. 1 Tool each

No. 100 Toledo P. D. Threading Devices

An attachment for use with the power drive. offers an unusually rapid and efficient means for threading the smaller sizes of pipe. The equipment consists of a chuck that fits into the driving head of the power drive, and of a special threading appara-



tus that attaches to the chuck for threading pipe from 1 to 2-inch, inclusive.

The chuck also makes possible the utilization of a Vosper Pipe Cutter for cutting off pipe from ½ to 2 inches, and the utilization of a No. 00 Toledo Threading Device, or any ordinary stock and die, for threading ½ and ¾-inch pipe. Shipping weight, 42 pounds.

No. of Sets of Dies to Stock	4
Price, No. 100, Completeeach	\$60.00
Price. Dies, per Set of 4 Segments	2.50

Toledo Junior Power Drives

The Toledo Junior Power Drive is designed for operating Toledo threading and cutting tools from 4-inch down but it will also operate the larger tools. It increases the productive capacity of Toledo hand operated tools many times.

In addition to its primary use the Toledo Power Drive has been adapted to other purposes. For instance, it has been used to operate hand winches for raising pipe, radiators, tool chests, etc., to upper floors of buildings. In other instances it has been used for operating bending rolls in sheet metal shops, and other machines where hand cranking has heretofore been used.

This drive is simple in construction, has few working parts, and therefore a minimum upkeep expense. Special operators are unnecessary, for the instructions are few and may be quickly understood by the ordinary mechanic.

The motor is started and stopped by a switch which is mounted on the gear housing. It is not equipped with fuse plugs nor does it have the two-speed transmission gearing.

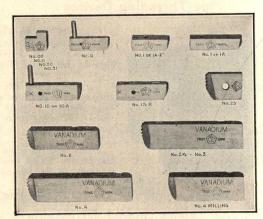
This drive can be connected to an ordinary lamp socket. It is furnished with a ½-h.p. 110-volt motor and operates at but one speed, the driving head rotating at 24 r.p.m.

Twenty feet of flexible cable is supplied with each drive. The machine is approximately 6 feet long over all and is mounted on wheels 18 inches in diameter.

Shipping weight, 225 pounds.

Price, with 1/2-H.P., 110-Volt A.C. or D.C. Motoreach \$450.00

Toledo Dies



This illustration shows a single die segment of each of the various types used in Toledo pipe threaders.

These illustrations are shown so that there may be no

confusion as to which particular model any given set of dies may be for.

The markings on the dies may also be of interest, indicating as they do, the trade mark that appears on all genuine Toledo dies, which is the equivalent of the signature guaranteeing quality.

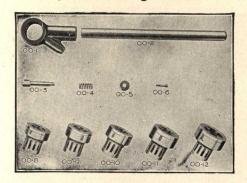
The word Vanadium that appears on some of the segments, indicates the nature of the alloy from which those dies are made.

The small X mark appearing on several of the other segments, means that those dies are made of tungsten high speed steel. Other of the dies are made of a special high carbon alloy. The variation in the kinds of steel used, is the result

of years of experience as to which will give the best possible service.

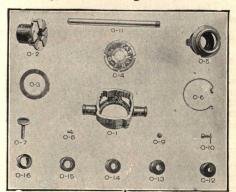
Prices upon application.

Repair Parts for No. 00 Toledo Ratchet Pipe Threading Devices



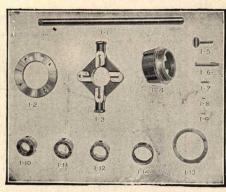
No.				Descrip	tion			Price Each
	Dies, 1	Right-	hand	, Con	plete	Set		\$10.00
			**	Sing	le Set.			2.00
	Ratch	et Ha	ndle,	Com	olete			3.00
00-2		He	ad an	d Ha	ndle O	nly		2.00
00 - 3	"	Pay	vl					.60
00- 4	"	Spr	ing					.20
00- 5	"	Pay	vl Kr	ob.				.30
	"	"	Co	mple	te			1.10
*00- 6	Die H	ead C	over	Screw	7			.08
00⊢ 8	1/8-incl	n Die	Head	with	Dies.			3.00
00-9	1/4 "	"	"	"				3.00
00-10	3/2 "	"	"	"	"			3.00
00-11	1/2 "	"	"	"	11			3.50
00-12	3/4 "	"	"	"	"			3.50
	orderin	r 00-6	die	head.	cover.	corowe	alwaye	specify
for what	size die	head	·	ncau	COVCI	BULGWA	aiways	specify

Repair Parts for No. 0 Toledo Adjustable Pipe Threading Devices



*When either one of these parts is required they must be ordered together, or the complete tool body and dies returned to factory to be properly repaired or replaced.

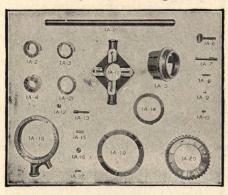
Repair Parts for No. 1 Toledo Adjustable Pipe Threading Devices



No.	Description	Price, Each
	Dies, Complete Set	\$10.00
	" Single Set	2.50
1-1	Handle, Pair	2.50
1-2	Taper Pin Plate	3.00
*1-3	Die Head	4.50
*1-4	Pipe Holder	3.00
1-5	Thumb Screws, Each	.20
1-6	Taper Pin, Each	.40
	Die Retaining Spring (One	
	" " Nail of	.20
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Bushing	s: 1-10, 1"; 1-11, $1\frac{1}{4}$ "; 1-12, $1\frac{1}{2}$ "; 1-14, 2"	.50
1-13	Retaining Ring	1.50
	n aither one of these parts is required there	

*When either one of these parts is required they must be ordered together, or the complete tool body and dies returned to factory to be properly repaired or replaced.

Repair Parts for No. 1A Toledo Adjustable Ratchet Pipe Threading Devices

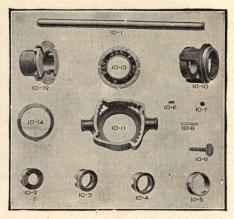


No.	Description	Price, Each
	Dies, Right-hand, Complete Set	. \$10.00
	" " Single Set	2.50
1A- 1	Handle, Per Pair	2.50
Bushings:	$1A-2, 1\frac{1}{4}$ "; $1A-3, 1\frac{1}{2}$ "; $1A-4, 1$ "; $1A-21, 2$ ".	50
*1A-5	Pipe Holder	3.00
1A- 6	Thumb Screw, Each	.20
1A-7	Taper Pin. Each	40
	Die Retaining Spring " " Nail. One of Eacl	
*	" " Nail of	.20
	" " Pin Each	ı
	Ratchet Case Screw, Each	.10
*1A-11	Die Head	4.50
1A-13	Ratchet Pawl	. 60
1A-14	Retaining Ring	1.50
1A-15	Ratchet Spring	.20
1A-16	" Pawl Knob	.30
1A-18	" Case	3.50
1A-19	" " Cover	1.30
1A-20	Taper Pin Plate	4.00
	aither one of these parts is required there	

*When either one of these parts is required they must be ordered together, or the complete tool body and dies returned to factory to be properly repaired or replaced.

Repair Parts for Nos. 10 and 10A Toledo Adjustable Pipe Threading Devices

Most of the parts of modern hand-operated threading tools are moving parts and subject to wear. Therefore, when a tool needs a die head, or a pipe holder, or a gear part, it is practically certain that the remaining portions of the tool have been worn through use and will also need attention, or perhaps re-



placement. It will be wise to send to factory the complete tool body, together with all the dies belonging thereto, with instructions to put the whole outfit in proper working order.

When a new die segment is wanted for a set of old dies do not ask the manufacturer to supply that segment unless all the remaining parts of the set of dies referred to are sent, so that the new segment may be properly matched in.

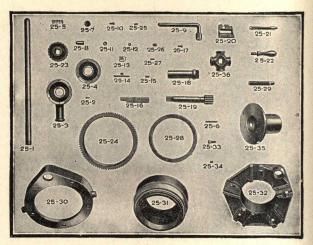
No.	Description	Price Each
	[2011] [2012] (1) [2012] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013] [2013]	
	Dies, Per set of 4 Pieces	\$2.75
	" Left-hand, Complete Set	11.00
	" _ " _ Single Set	2.75
10-1	Handle, Pair	2.50
10- 2	1-inch Bushing	.50
10- 3	11/ " "	.50
10- 4	11/2 " "	.50
10- 5		.50
10- 6	Die Head Cover Screws, Each	.10
10- 7	" Spring Discs, Each	.05
10-8	" Case Key (Not Used on Present Models)	.20
10-9	Thumb Screws, Each	.20
*10-10	Pipe Holder	4.50
10-11	Die Head Case	9.00
*10-12	u u	4.00
10-13	" " Cover	1.85
10-14	Retaining Ring	1.50
*When	either one of these parts is required they m	ust be
ordered	together, or the complete tool body and d	ies re-
	to factory to be properly repaired or replaced.	

Parts Additional to No. 10 to Make No. 10A

Nº 10-A-22 Nº 10-A-21 Nº 10-A-23 Nº 10-A-20 Nº 10-A-18 Nº 10-A-16 Nº 10-A-15

No.	Description	Price Each
10A-15	Ratchet Plate	\$3.50
10A-16	" Case Cover	1.30
10A-17	" " "	
	" Pawl	
	" " Spring	
	" Case Screws, Each	
	" Pawl Knob	
	Rivets, Each	.05

Repair Parts for No. 25 Toledo Geared Adjustable Pipe Threading Devices



No	Description	Price
	Ratchet, Complete	\$7.00
25-1	Handle	2.00
	Ratchet Case Screw,each	.10
25-3		3.00
25-4	" Cover	1.00
25-5	" Spring	.20
25-6	Pinion Retaining Pin	.10
25-7	Ratchet Washer	.10
25-8	" Pawl	.60
25-9	Set Screw Wrench	.60
••••	Die Retaining Screw, each	.30
••••	Taper Pin Washer	.10
• • • • •	Die Collar" Dies, per Set of 5 Segments	8.00
*25-14	Adjusting Ratchet each	4.00
	Die Holder Spring Cover "	.10
*25-16	" " " " " " " " "	5.00
20 10	Head Cover Screws "	.10
**25-18	Pinion Sleeve	5.00
**25-19	Driving Pinion	7.00
25-20	Die Head Covereach	.80
25-21	Taper Pin	3.00
25-22	Lifting Handle"	1.50
25-23	Ratchet Wheel	1.50
†25-24	Gear Band	20.00
	Die Holder Spring,each	.10
	* " Pawl	1.00
	" " Pin "	.10
25-28	Retaining Ring	4.00
25-29	Set Screweach	1.25
25-30	Taper Pin Plate	8.00
†25-31	Pipe Holder	30.00
†25-32 25-33	Die Head	45.00
25-33	Bushing Screw. each Die Head Button. "	.10
25-35	Bushing (2½, 3, 3½, 4, 4½, or 5 Inches) "	5.00
25-36	Driving Cross.	1.00
20 00	Diring 01000	1.00

*When these parts are ordered the old parts must be returned to factory in order to properly match up new parts.

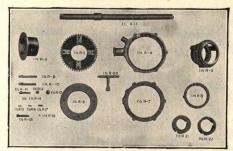
**When either one of these parts is required, the other part should be returned so the new one can be properly fitted or both parts should be ordered to insure proper fit.

†When any of these parts are required they must be ordered together, or complete tool body returned to the factory for proper repairs.

When ordering repairs always specify serial number and prefixing letter, if any, which appear on the brass name plate of the tool.

Prices apply only for standard parts; other tool parts will be quoted on specially as occasion arises.

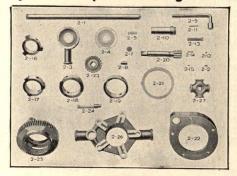
Repair Parts for No. 1½-R Toledo Ratchet Pipe Threading Devices



Price

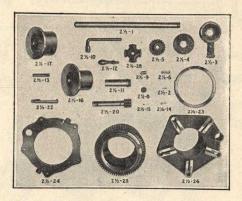
No.	D	Frice	37		Price
No.	Description	Each		Description	Each
	Dies, Com.,		11/2R. 9L	Taper	
	Set (11½		11/2R-10S	Pins.each	\$ 75
	Pitch)\$		1½R-11	Ratchet	ψ
	Dies, Com.,		1/21011	Pawl	co
			11/D 10		.60
	S e t (8	0 00	1½R-12	Ratchet	12 2
	Pitch)	8.00		Bushing	.60
	Dies, Single		1½R-13	Ratchet	
	Set	4.00		Knob	.30
11/2R-1	Handle	3.00	11/2R-14	Ratchet	
11/2R-2	Lead Screw	3.60	-/2	Spring	.20
11/2R-3	Ratchet	0.00			.20
17211-3		0 00		Ratchet	
-1/D	Die Head	6.00		Case Screw	.10
11/2R-4	Ratchet			Die Head	
	Case	4.50		Rivet	.05
11/2R-5	Pipe Holder	6.00	11/2R-18	Set Screw	.20
11/2R-6	Taper Pin		1½R-20	a "	.20
- /2-0	Plate	3.60	1/210 20	Wrench	co
11/D/7			11/D 00		.60
1½R-7	Ratchet Cover	2.00	1½R-22	2½-i n c h	
1½R-8	Retaining Ring	1.50		Bushing	.90
	Die Retaining	Spring	and Pin)	One of	
	" "	"	Scrow	Each	¢ 20
11/2R-21		na (for	Chariel Tes	1)	\$.20
17211-21	2-inch Bushi	ing (for	opecial 100	1)	.90

Repair Parts for No. 2 Toledo Geared Adjustable Pipe Threading Devices



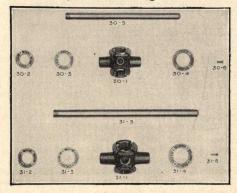
		Price			Price
No.	Description	Each	No.	Description	Each
	Dies Com. Set	\$32.00	2-11	Pinion Retain-	
	" Sing. "	8.00		ing Pin	\$.10
	Ratchet, Com.	7.00	2-13	Set Screw	.20
2- 1	Handle	2.00	2-16	2½-in, Bushing.	1.80
	Lifting Handle.				The first Control of the Control of
		1.25	2-17	3-in. Bushing	1.80
	Ratchet Cover Screw	.10	2-18	3½-in. Bushing	1.80
2-3	Ratchet Case	3.00	2-19	4-in. Bushing.	1.80
2-4	" "		2-20	Driving Pinion	5.00
	Cover	1.00	2-21	Retaining	
2-5	Ratchet			Ring	2.00
	Spring	.20	2-22	Taper Pin	
2-7	Ratchet			Plate	4.00
	Spring		2-23	Ratchet Wheel	1.50
	Washer	.10	2-24	Taper Pin	.60
2-8	Ratchet Pawl	.60	2-25	Gear	17.00
2-9	Set Screw Wrench	.60	2-26	Die Head	20.00
2-10	Pinion Sleeve	3.50	2-27	Driving Cross	
				Driving Cross	1.00
	Die Retaining	Spring Sc	rew	One	
			}_	of	
		Pin	JE	Each	. \$.20

Repair Parts for No. 2½ Toledo Geared Adjustable Pipe Threading Devices



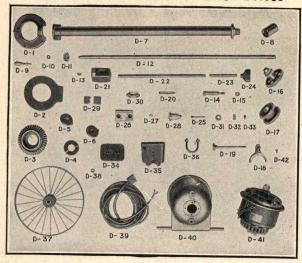
	.	Price			Price
No.	Description	Each	No.	Description	Each
	Dies Com. Set		$2\frac{1}{2}$ -11	Pinion Sleeve	\$5.00
	Dies Sing. Set	12.00	$2\frac{1}{2}$ -12	Lifting Handle.	1.50
	Ratchet, Com			Set Screw	.40
	Handle	2.00	$2\frac{1}{2}$ -16	4½-Inch Bushing	g 5.00
	Ratchet Case		$2\frac{1}{2}$ -17	5-Inch Bushing.	5.00
	Screw			Driving Pinion.	7.00
$2\frac{1}{2}$ - 3	Ratchet Case	3.00	21-22	Taper Pin	2.50
$2\frac{1}{2}$ 4	Ratchet Case			Retaining Ring.	4.00
	Cover	1.00		Taper Pin Plate	12.00
$2\frac{1}{2}$ - 5	Ratchet Wheel.	1.50		Gear	50.00
$2\frac{1}{2}$ - 6	Ratchet Spring.	.20	21-26	Die Head	65.00
$2\frac{1}{2} - 8$	Ratchet Washer	.10		Driving Cross	1.00
$2\frac{1}{2}$ 9	Ratchet Pawl	.60	N. N. P. Albania		
21-10	Set Screw				
98 . Y	Wrench				
	Die Retaining		and Pin.) One of	
	Die Retaining	Spring	Screw	Each	.20
	0	-18		,	-20

Repair Parts for Nos. 30 and 31 Toledo Pipe Threading Devices



	No. 30	
No.	Description	
	Dies, R. H., Complete Set	\$6.00
	Dies, R. H., Single Set	2.00
30-1	Body Only	5.50
30-2	3/8-Inch Die Head Cover	.60
30-3	½-Inch Die Head Cover	.60
30-4	%-Inch Die Head Cover	60
30-5	Handles, per Pair	2.25
30-6	Head Cover Screw	05
	No. 31	
	Dies, R. H., Complete Set	\$6.50
	Dies, R. H., Single Set ½ or ¾-Inch	2.00
	Dies, R. H., Single Set 1-Inch	2.50
31–1	Body Only	7.00
31-2	¹ / ₂ -Inch Die Head Cover	.60
31-3	%-Inch Die Head Cover	.60
31-4	1-Inch Die Head Cover	.60
31-5	Handles, per Pair	2.50
31-6	Head Cover Screw	.05

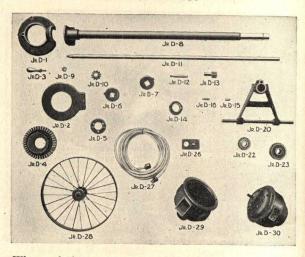
Repair Parts for Toledo Power Drives



Specify part as well as serial number of drive. When any part of motor gearing assembly (part No. D16) is needed, old assembly should be returned for salvage.

No.	Description	D.'- E
D- 1		Price, Eac
D- 2	Bevel Gear Case.	\$10.00
D- 9	Bevel Gear Case Cover.	10.00
D- 3	Lifting Handle	1.50
D- 4	Bevel Gear.	14.50
D- 5	Driving Bushing Collar	1.25
D- 6	No. 3 Driving Bushing.	3.50
D- 7	No. 2 Driving Bushing.	3.50
D-10	Shaft Casing.	47.00
D-10 D-11	Bevel Pinion Nut.	.30
	Bevel Pinion	12.00
D-13	Bevel Pinion Key	.25
D-12	Driving Shatt	0 50
D-14	Motor Gearing Stud	5.75
D-15	Motor Gearing Stud Nut.	.30
D-16	Motor Gearing, Including Bronze Pinion	22.00
D-31	Motor Pinion and Key	2.30
D- 8	Sliding Gear Drum	7.00
D-17	Sliding Gears	15.00
D-32	Sliding Gear Locating Same	.20
D-33	Sliding Gear Locating Pin. Shifter Fork and Set Screw.	.20
D-18	Shifter Fork and Set Screw	2.10
D-19	Dilliter Fork Fush Rod and Knah	2.70
D-20	Shifter Fork Stud	1.50
D-21	Switch Box	4.90
D-39	20 Feet Cable and Connector—3-Wire.	17.50
D-39	20 Feet Cable and Connector—2-Wire	10.50
D-29	Connector for 3-Wire Cable	4.80
D-29	Connector for 2-Wire Cable	4.00
D-30	Switch, Push Button (Old Style)	2.50
D-30	Switch, Toggle Joint (New Styl-)	6.00
D-22	Switch Box Conduit	1.20
D-23	Fuse Box Conduit. Condulet, Specify Serial No. of Drive.	.50
D-24	Condulet, Specify Serial No. of Drive	2.00
D-26	Fuse Block	4.00
D-27	Fusible Link	.20
D-28	Fuse Plug	3.00
D-34	Fuse Plug Fuse Box Cover	1.50
D-35	Fuse Box	10.00
D-36	U-Bolt	1.90
D-37		4.00
D-38	Wheel Retaining Washer	4.00
D-40	Gear Housing, Specify Serial No. of Drive	62.00
D-41	Motor, Specify Serial No. of Drive	300.00
D-41 D-25	Motor, Specify Serial No. of Drive	400.00
D-42	Oil Hole Cover	. 60
	Wheel Retaining or Case Cover Screws.	.60
	Wheel Retaining Washer Gear Housing, Specify Serial No. of Drive. Motor, Specify Serial No. of Drive. Motor, Specify Serial No. of Drive. Oil Tube. Oil Tube. Oil Hole Cover. Wheel Retaining or Case Cover Screws. Upper or Lower Bearing Screws. Sliding Gear Drum Screw.	.15
	Sliding Gear Drum Screw Switch Box Screw Switch Handle Mechanism Euro Per Green Service Servic	. 40
	Switch Handle Mechanism	.05 4.80
	Fuse Box Cover Screw	.10
	Fuse Box Cover Screw Condulet Screw Gear Housing Screw Bronze Pinjon Och	05
	Bronze Pinion Only	11.00
	Bronze Pinion Only No. 2 Safety Driving Bushing No. 3 Safety Driving Bushing	4.00
	No. 3 Safety Driving Bushing	4.00

Repair Parts for Toledo Junior **Power Drives**



When ordering new parts, specify part number as well as serial number of drive. Always specify serial number of drive, shown on brass name plate.

When ordering motor give full details as to the character of current.

of current.

or current		
No.	Description	Price Each
Jr. D- 1	Bevel Gear Case	\$10.00
Jr. D- 2	Bevel Gear Case Cover	10.00
Jr. D- 3	Lifting Handle	1.50
Jr. D- 4	Bevel Gear	14.50
Jr. D- 5	Driving Bushing Collar	1.25
Jr. D- 6	No. 2 Driving Bushing.	3.50
Jr. D- 7	No. 3 Driving Bushing	3.50
Jr. D- 8	Shart Casing	40.00
Jr. D- 9	Bevel Pinion Nut	.30
Jr. D-10	Bevel Pinion	12.00
Jr. D-11	Driving Shaft	8.50
Jr. D-12	Gear Stud	4.00
Jr. D-13	Shaft Gear Pinion	10.00
Jr. D-14	Shaft Casing Collar	2.50
Jr. D-15	Shart Casing Saddle Pawl.	.50
Jr. D-16	Shaft Casing Saddle Pawl Spring	.30
	Shaft Casing Collar Screw (Not Illus)	.40
Jr. D-20	Shaft Casing Saddle	30.00
Jr. D-22	Shaft Gear*	6.00
*Jr. D-23	40-Tooth Gearper pair	16.00
Jr. D-26	Switch Cover	1.50
Jr. D-27	Cable with Connector and Plug	12.00
Jr. D-28	Wheels	4.00
Jr. D-29	Gear Housing	50.00
Jr. D-30	Motor	185.00
	Not Illustrated	

Not illustrated	
Description	Price Each
Wheel Retaining Screw	\$.10
Wheel Retaining Washer	.10
Case Cover Screw	.10
Switch box Cover Screw.	.05
Gear Housing Screw.	.15
Casing Saddle Cover Screw	.20
Oil Hole Cover	.60
Gear Stud Nut.	.20
Driving Bushing Collar Screw.	.10
Upper Bearing Screw. Shaft Gear Key.	.15
Shaft Gear Retaining Screw.	
Shaft Gear Retaining Washer.	.20
Switch.	3.00
Motor Brushes.	.60
End Plate, with Bearing.	22 00
End Plate, Less Bearing	15.00
No. 2 Safety Driving Bushing	4.00
No. 3 Safety Driving Bushing.	4.00
*These gears must be supplied in pairs to insure	
meshing properly.	occ on

mesning properly.

Curtis Pipe Cutting and Threading Machines

With Opening and Adjustable Dies



These machines require but little power to operate, take up little floor space and are light in weight. Pipe bends may be threaded as easily as straight pipe. Machines are equipped with automatic oiling device and die release. Dies are interchangeable.

Curtis Hand Machines

Dies are adjustable to allow for variations of fittings. Special dies for any pitch or taper of thread, supplied if desired. Regular equipment consists of adjustable pipe rest, ratchet wrench, dies, cut-off tools and wrenches. Nos. 30, 42 and 58 are designed to stand on bench. Floor stand and

high adjustable pipe rest,\$100.00 list price.

Combined Hand and Belt Driven Machines

Same as Curtis Hand Machine with countershaft and spur gears added. Equipped with standard countershaft, pipe rest, dies, cut-off tools and wrenches. For machines 6-inch and less, iron cabinet base and high adjustable pipe rest \$100.00 list extra. All machines above 6 inches include floor base.

Direct Connected Electric or Hand Machines

Similar to hand machine with die head rotated by electric motor. Base is provided with oil drip pan and reservoir into which the oil is strained, then pumped through system. Machines up to 4 inches designed to stand on bench. Floor base and adjustable pipe rest \$100.00 list extra. Machines larger than 4 inches include floor base. State motor requirements, whether A. C. or D. C., phase and cycle. All furnished with commercial motor, adjustable pipe rest, ratchet wrench for hand operation, dies, cut-off tools and necessary wrenches.

Hand Machines

		Bench or Floor					No. Dies	Cut	- Net	
N	Range	Space Inches	Ht.	Die	Speed	211	per	off	Wt.	Price
No	Inches	Inches	ln.	Sets	R.P.M.	H.P	. Set	to	Lbs.	Eaca
30	1/4-2 R.H.	14x14	17	4			3	0	180	\$170.00
37	½ 3 R. H.	13x15	19	4			4	4	235	275.00
42	1-4 R. H.	17x18							350	370.00
58	1-6 R. H.	23x21							550	635.00
65	1 to 8 R. H.	27x24	30	4			4	3	1200	1200.00
69	2½ to 12 R. H.	38x32	45	4			6	3	2400	2170.00
69 -B	8 "16 R. H.	45x32	52	4			*	2	3400	3000.00
									1 1 1 1 1 1 1 1 1 1 1 1	

Belt Driven Machines

70	1/4 to 2 R. H.	22x16	20	4	 	3	0	392	\$335.00
77	½ " 3 R. H.	17x27	23	4	 	4	4	428	440.00
	1 " 4 R. H.	24x20	27	4	 	4	4	668	535.00
	1 " 6 R. H.	36x23	31	4	 	4	3	1545	835.00
	1 "8 R. H	39x28	56	4	 	4	3	2350	1785.00
108-A	2½ to 12 R. H.	60x32	65	4	 	6	3	5150	3000.00
	8 ID to 16								
	OD R. H.	60x36	82	4	 	*	2	4350	4500.00

Direct Connected Electric Machines

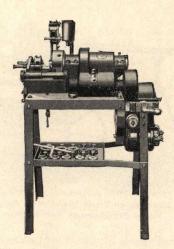
430	1/4 to 2 R. H.	24x16	20	4	1800	1	3	3	425	\$725.00
437	½ " 3 R. H.	17x27	23	4	1800					880.00
442	1 " 4 R. H.	29x21	28	4	1800					975.00
258	1 "6 R. H.	28x34	53	4	1800	3	4	3	1435	1585.00
265	1 "8 R. H.	38x38	58	4	1800					2420.00
269	$2\frac{1}{2}$ to 12 R. H.	45x40	72	4	1800					4000.00
269 -B	8 ID " 16									
	OD R. H.	52x48	86	4	1800	5	*	2	6000	5200.00

*8 to 11 inches, 6; 12 to 16 inches, 12.

Cut-off attachment and tools for No. 30 and No. 70, \$35.00 list extra.

No. 1000M Toledo Motor Driven Pipe Machines

Capacity, 1/2 to 2-Inch Pipe, Inclusive



A highly efficient cutting, threading and reaming machine for ½ to 2-inch pipe, complete in every detail and equipped with ½-horsepower motor that can be connected to the ordinary lamp socket.

Pipe is gripped by a powerful self centering chuck and is rotated while being cut or threaded.

The cutting-off tool and its accompanying mechanism are mounted on a swinging arm, which can be instantly placed in position for operation or can be turned back out of the way. Cutting-off tool is made of high speed steel and has a secondary cutting edge for chamfering the end of the pipe, a desirable adjunct, facilitating as it does the proper centering and easy starting of the threading dies. Likewise, from the other side, the threading dies are mounted on a swinging arm, which can instantly be placed in operating position.

Mounted on the arm that carries the die heads, is a reaming tool, which simultaneously with the threading, will ream out the inside edge of the pipe, clearing it of any obstruction. This reamer will be especially appreciated by the installer of electrical conduit.

There is a separate die head and bushing for each size pipe, and a feature peculiar to this new machine is the ease and speed with which one die head can be substituted for another one when threading different sizes of pipe. This change from one size die head to another can be easily made in 10 seconds. It is only necessary to use the bushings when cutting or threading pipe 6 feet long or longer.

An oil receptacle mounted on a swinging arm and fitted with spout and valve, insures a constant flow of oil on the threading dies or cutting-off tool. An oil strainer and pan beneath the chuck, separating the oil and chips, makes it possible to use the same oil again and again.

The machine is also fitted with a special throwcut clutch, which automatically releases, if too much strain is imposed on same, and thus protects all parts from possible damage. There are just 5 convenient oil holes, thus requiring the minimum attention to up-keep. There is no exposed gearing to endanger the operator.

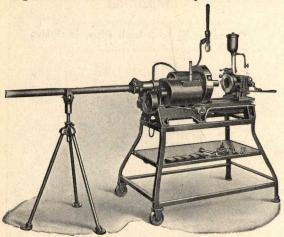
A ½-inch pipe is threaded in 13 seconds, a 1-inch pipe is threaded in 14 seconds, and a 2-inch pipe in 28 seconds.

A ½-inch pipe is cut off in 7 seconds, 1-inch pipe in 10 seconds, and 2-inch pipe in 14 seconds.

Its net weight is but approximately 450 pounds, and it is easily moved by 2 men. Compact, measures 54 inches high, 24 inches wide, and 42 inches long.

Furnished complete with dies and bushings from $\frac{1}{2}$ to 2 inches, cutting off and chamfering tool, reamer and chuck wrench.

Rogaco Portable Electric Pipe Machines



Machine Mounted on Truck Stand, with Roller Bearing Tripod Pipe Support Holding Pipe

The Rogaco Portable Electric Pipe Machine is designed for cutting off, reaming, threading and making on fittings. It is suitable as a bolt, bar or pipe machine. The bar or pipe is held in the universal chuck, and is centered at the rear end of the spindle by a special centering device. The pipe at the cut-off tool is centered by hardened V jaws. This gives three centering points. The machine cuts threads which are straight and true to gauge.

It is equipped with a gear shift which gives two spindle speeds right and two left hand. A vertical lever controls the speed changes. A horizontal lever operating on the side controls the direction in which spindle revolves.

The standard equipment of the Rogaco Pipe Machine includes a special motor, enclosed in a dirt and grease-proof case, single and double engineers' wrenches, electric cable with lamp socket connections, and a full set of right-hand dies 3% to 2 inches, or a Rogaco quick opening die complete with chasers ½ to 2 inches, whichever is desired.

All controls are within easy reach of the operator. The motor can be started or stopped instantly by turning a snap switch. The carriage is controlled by a lever operating through a rack and pinion. There are special cut-outs on the carriage which throw it out of mesh automatically.

This machine will thread pieces of pipe as short as 31/2 inches end to end. Close nipples or thread to thread nipples can be cut by use of the Rogaco nipple chuck, which is furnished as an accessory when desired.

With the Rogaco reversible power drive attachment and hand geared stocks, such as Beaver or Toledo, the capacity of the machine can be increased to 8 inches in diameter, or even up to 12 inches. With this attachment it is not necessary to back off by hand; the machine is reversed and it backs off by power.

	Approx Ship.	Price
Description		s. Each
Machine Complete with Right-Hand Solid Dies		
3/8 to 2-Inch, or Rogaco Quick Opening Die		
with Chasers 1/2 to 2-Inch, and Either an		
A. C. or D. C. Motor of Standard Current		
Characteristics	600	\$469.00
Angle Iron Truck Stand	100	25.00
Rogaco Reversible Power Drive	30	25.00
Roller Bearing Tripod Pipe Support	30	13 50
Rogaco Nipple Chuck with Bushings 3/8 to 2-In.	20	30.00
Extra Motor, Either A. C. or D. C	100	108.50
Extra Sets of Chasers for Opening Die Sizes		
½ to 2-Inch, Six Sets, Four Chasers to a Set.	92913	
per set	1	4.00
Extra Solid Dies, Sizes 3/8 to 2-Inch, Seven		
Diesper set	14	16.79
Extra Bushings for Nipple Chuck, 3/8 to 2-Inch,		
Seven Setsper set		1.65
Rogaco Quick Opening Die Complete with	00	== 00
Chasers ½ to 2-Inch	38	55.00

Red-E-Hall Portable Power Pipe **Threaders**

1/4 to 2-Inch Pipe ½ to 1½-Inch Bolts with Hand Stocks up to 12-Inch, Universal Shaft



This machine is constructed with a built-in truck which can be elevated quickly for portable operation. Has a friction clutch for stop and start, and a reversible 1-h.p. motor. The silent chain drive, flexible yet positive, is fully guarded. Timken roller bearings throughout are self-oiling and adjustable.

Three cutting speeds, extra fast for cutting off, can be changed quickly. Close nipples can be threaded without extra equipment, using the standard chuck. Threads right and left hand, cuts off and reams.

Specifications.—Cutting speed, 16 feet per minute; Specifications.—Cutting speed, 16 teet per minute; carriage travel, 11 inches maximum; 4 dies to a set, 4 sets required; diameter hole in spindle, 27% inches; diameter hole in head, 3 inches; motor speed, 1750 r.p.m.; floor space, 38x26 inches; height over all, 43 inches; height, floor to center of spindle, 36 inches. Weight, 450 pounds; shipping weight, 530 pounds.

Standard Equipment

A.C or D.C. motor and 18 feet of heavy insulated cord and connection. A.C. motor furnished for 110-220-volt, 60-cycle, 1, 2 or 3-phase; 440-volt upon application. D.C. motor furnished for 115-230-volt; 550-volt upon application.

Die head, complete with quick opening and closing device, micrometer adjustment and internal oiling system.

Eight sets of dies: 4 sets covering the complete range, 14 to 36 inch; 12 to 34 inch; 1 to 114 inches, and 112 to 2 inches. Briggs standard right hand pipe threads. Four extra sets are spare as listed above, or other sizes at option of purchaser.

Heavy duty type cutting-off attachment with double bevel, high speed cut-off tool. Swivel type reaming and chamfer attachment with high speed reversible tool bit.

Self-centering scroll chuck on rear spindle with hardened steel jaws.

Double opposed V blocks for high speed cutting-off. Special driving chuck, 3-jaw, universal with special patented combined pipe and nipple jaws for holding pipe, 1/4 to

2-inch, and for threading close nipples.

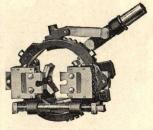
Reversible, rotary-geared oil pump, complete with all connections; 2 gallons Red-E-Cut pipe threading oil.

Complete set of wrenches. Price, Complete with Standard Equipment...each \$485.00

Extra Equipment	
Price, R.H. Briggs Standard Pipe Dies per se	et \$5.50
Price, L.H. Briggs Standard Pipe Diesper se	t 6.00
Price, R. & L. U.S.S. Bolt Dies	et 6.00
Price, Gripping Chuck Jaws, Std. for Pipe Only per se	et 12.00
Price, Gripping Chuck Jaws, for Pipe and Nipples. per se	t 15.00
Price, Cut-Off Tool, High Speedeac	h 1.25
Price, Reamer Tool, High Speedeac	h .75
Price, Chuck Wrenchesper se	et 2.10
Price, Universal Drive Shaft for Hand Stocks, 2½ to 12-Inch. each	h 25.00

No. 10 Beaver Ratchet Pipe Cutters

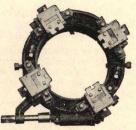
A development of the smaller sizes of Beaver Square End Pipe Cutters, the same knife construction being used. The frame of the No. 10 is divided into two principal parts, a chuck or gripping part and the cutting section which carries the knives and is revolved on the frame by a ratchet. The frame can be broken and placed around a pipe when necessary.



No. 10	Cuts Pipe Inches 2½ to 4	Shipping Weight Pounds 55	Complete Price Each \$90.00	Cutters Price per Pair \$2.50
10	2/2 10 4	99	\$90.00	\$2.50

Nos. 106, 108 and 112 Ratchet Pipe Cutters

These cutters have the same knife construction as the smaller sizes, but on account of the large capacity the adjustment for different sizes is made by adjusting the knife blocks separately. These tools are operated by a ratchet handle applied to driving pinion which operates a worm gear. When desired power can be applied instead of the hand ratchet on the driving pinion.



No.	Cuts Pipe Inches	Shipping Weight Pounds	Complete Price Each	Cutter Price per Pair
106	21/2 to 6	130	\$180.00	\$5.00
108	41/2 " 8	190	225.00	6.00
112	9 " 12	235	300.00	12.00

Saunders Type Pipe Cutters

Roller Style especially good where cutter can be revolved entirely around



tirely around pipe. Cuts without leaving burr. Cutter has hardened tool steel facing in the swinging block at the point where the screw bears on it to prevent wear. It is extra strong at foot of sleeve handle.

No.	Cuts Pipe Inches	Price Each		CE, PER DO	Pins	PRICE, Blocks and Wheels	
1S	1/8 to 1	\$3.00	\$2.88	\$2.88	\$1.20	\$1.25	\$1.00
2 S	1 " 2	4.50	3.84	3.84	1.20	1.75	1.25
3 S	2 "3	11.00	7.20	6.00	1.80	2.75	1.75
4 S	21/2 " 4	18.00	7.20	6.00	1.80	3.50	3.50
5 S	4 " 6	28.00	7.20	7.20	1.80	4.00	5.00

Barnes Type Pipe Cutters



Three wheel style, suitable for use where cutter cannot be. revolved e n t i r e l y around pipe.

	Cuts	D.:	D	- D		PRICE, EAC	
No.	Pipe Inches	Price Each		ER DOZEN	Body	Slide and Wheel	Handle and Screw
1 B	1/8 to	1 \$4.50	\$3.00	\$1.00	\$1.75	\$.75	\$1.00
2 B	1/2 "	2 6.00	3.60	1.00	2.60	1.00	1.25
3 B		3 10.00	4.80	1.00	4.55	2.00	2.25
4B	21/2 "	4 20.00	6.00	2.00	9.50	4.50	4.50
5 B	4 "	6 30.00	9.00	2.00	13.75	7.00	7.00
6 B	6 "	8 40.00	9.00	2.00	20.00	8.50	9.25
61/2B	8 "	10 45.00	9.00	2.00	23.00	9.50	10.25
7B	9 "	12 50.00	9.00	2.00	25.00	11.25	11.50

Beaver Square End Pipe Cutters

Cuts pipe square and clean, leaving no burr.



Trimo Pipe Cutters



Made with one cutting wheel and two rolls or with three cutting wheels.

The wheels

tured of chrome vanadium steel. Has no thread in the frame or roll block. A small case-hardened nut adjusts handle screw which can be replaced when worn. Converted into a three-wheel cutter by substituting two wheels for the two rolls.

	The state of the latest	The state of the s	Carrier and	- PRICE,	EACH -		
	Cuts		Knife	Knurled		Han	dle Cnly
	Fipe	Com-	Edge	Edge		7	vithout
No.	In.	plete	Wheels	Wheels	Rolls		rew Rod
1	1/8 to 11/4	\$4.50	\$.40	\$.60	\$.30	\$.35	\$.50
2	1/4 " 2	6.00	.40	.60	.30	.35	.50
3	1 " 3	10.00	. 50	.90	.40	.40	.50

Trimo Thin Pattern Pipe Cutter Wheels

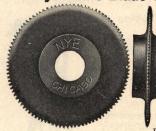


Knife-Edge

Made of Chrome Vanadium Steel. Makes a quick, thin, clean cut on the pipe. Same size wheels for both No. 1 and 2. Larger size for No. 3.



Nye Knife Blade Cutter Wheels



Made from high grade tool steel, hardened and tempered in oil. The blades are less than V_8 th of an inch thick and are straight from the hub to the cutting edge.

They cut with one-third the power and time required by the old type wheels.

Made both knurled and smooth-edged; same price.

		Land Barrier Land	PRICE	EACH-	and the state of	
Wheel			YPE —	A STATE OF THE STA		
No.	Barnes	Saunders	Nye	Trimo	Armstrong	Holland
1	\$.50	\$.50	\$.70	\$.60	\$.50	\$.50
2	.60	.60	.80	.60	.60	.60
3	.80	1.10		.90	1.10	1.10
4	1.00	1.10				
5	1.10	1.10	166.1.61	44.4		99

Nye Cutter Pins

Barnes	Saunders	Trimo	Nye	Armstrong	Holland
\$1.00	\$1.20	\$1.00	\$1.20	\$1.20	\$1.20
1.00	1.20	1.00	1.80	1.20	1.20
1.00	1.80	1.00		1.80	1.80
2.00	1.80				
2.00	1.80				

Nye Cutter Rollers

No.	PRICE, PER DOZEN-									
	Nye	Saunders			Holland					
1	\$.24	\$.24	\$.25	\$.25	\$.24					
2	.50	.32	.25	.30	.32					
3	are to the	.50	.50	.50	.50					
4		.50								
5		.60								

No. 1 Williams' Vulcan Pipe-vise Clamps



This clamp is designed for fastening No. 1 Vulcan Vise to table, bench or other support which it is desired to avoid marring by the use of screws or bolts. It is quickly and easily applied.

The clamp is drop-forged from a strong, tough grade of special steel, and is heat-treated to further increase its stiffness and strength. The screws are also drop-forged; the swivel is of wrought steel.

No.	DIME	NSIONS DY, IN. Wdth.	SIZE SC	REW, IN.	Complete	Extra Screw and Swivel not
1	51/8	43/4	Diam.	Lgth. 35/8	\$1.75	Assembled \$.50

Williams Vulcan Drop-Forged Chain Pipe Vises

Unbreakable, compact, rapid in action and positive in grip.

It is made entirely of wrought steel with drop-forged jaws, saw tempered for file sharpening.

The different sizes are equally serviceable upon and suitable for fastening to bench or post.

ber	nch or	post.	table	101 18	stening	g to			
No. 1 2 3 4	Cap. Pipe In. 1/8-2 1/4-4 1/2-6 1/2-8	Approx. Size Folded In. 4x5x6 6x8x8 8x9x11 8x10x12	10 18	plete Each \$7.00 15.00 27.00	Jaws per Pr. \$3.00 7.00 12.00 18.00	\$2.50 4.80 9.00	Screws \$.80 1.40 2.50	\$2.20	Nuts

No. 51 Reed Strap Vises

For Polished Pipe and Tubing

This vise does not require a separate bushing for each size.

Change for different sizes is made instantly with tightening screw.

Straps are of fine grade linen webbing and are subject to very little wear in use. Rosin or chalk should be used to prevent slipping.

N 5

	or chalk sing.					
Го.	Holds Pipe Inches	—STRAP	, Inches—Width	Wt.	PRICE, E	Extra Strap
1	1/2 to 2	17	21/6	91/6	\$4 00	\$ 75

Giant Pipe Pushers

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st:

Will push length of water, gas or electric pipe up to 200 feet through any soil a spade will dig. One man required to operate at rate of 60 to 90 feet per hour. One stroke of lever moves pipe one meh Every 22 in-

ches frame changes grip without moving machine. Approximate weight, 140 pounds.

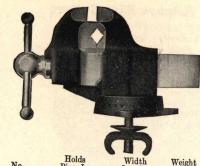
Price, for ½ to 2-inch Pipe each \$70.00

Little Wonder Pipe Leads

Shown in illustration. A tool steel lead to fit into end

Shown in illustration. A tool steel lead to fit into end pipe, insuring accuracy of direction.

Price ... each \$5.00



Reed Combination Pipe Vises

Swivel Base

Designed for severe service requirements Pipe jaws are milled from solid tool steel bars, tempered in oil. Front pipe jaw is reversible.

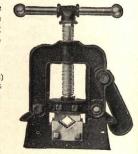
No. 11 132	Holds Pipe, In. 1/8 to 21/2 1/8 " 31/2 1/4 " 41/4	Width Jaw, In. 31/2 41/4	Weight Pounds 46 72	Price Each \$16.00 22.00	Price Jaws (3) per Set \$2.40 3.40
4	1/8 " 41/2 1/8 " 6	5 6	119 178	32.00 45.00	5.60

Reed Standard Pipe Vises

Self-locking. Pipe jaws are of fine tool steel, carefully hardened and tempered in oil. Both upper and lower pipe jaws have two holding bolts.

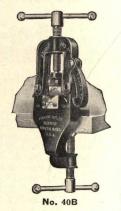
There is no front apron, hence vise may be mounted on any plane surface. Base extension at back is flat on top to make it easy to get at bolt heads.

No.	Holds Pipe Inches	Wt. Lbs.	Price Each	Price Jaws (3 per Set
7000	1/8 to 11/4	3	\$2.50	\$1.20
700	1/8 " 11/2	5	3.60	1.50
70	1/8 " 2	71/2	4.25	1.80
71	, 0	10	5.00	1.80
72	1/8 " 31/2		7.50	2.55
73	1/8 " 41/2	25	11.00	3.60



Trimo Pipe Vises





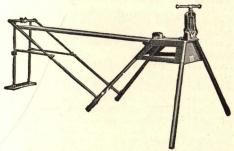
Tool steel jaws, hardened and tempered. Yoke, frame and base of malleable iron. Screw, head and handle of selected steel. No. 40B is made with apron and is portable.

No	400	40	41	42	40B	43	44
Capacityin.	1-11	1_2	$\frac{1}{8} - 2\frac{1}{2}$		1-2	-	100
Yokeea.	¢ 00	61 00	8 42	8 02		$\frac{1}{8} - 4\frac{1}{2}$	$\frac{1}{8}$ -6
Dage	\$.90		\$1.20	\$1.80	\$1.00	\$2.65	\$5.75
Base	1.40	1.60	1.90	2.80	2.65	4.20	9.00
Hook	.25	.30	.35	.50	.30	.75	
Top Screw and Handle "	1.00	1.20	-				1.60
Lower Low			1.40	2.20	1.20	3.00	6.60
Lower Jaw "	.50	.60	.70	.85	.60	1.20	2.00
Upper " "	.50	.60	.70	.85	.60	1.20	2.00
Yoke Bolt and Nut "	.10	.10	.10			7 N. C.	
Upper Jaw Bolt and Nut. "				.10	.10	.10	.10
The saw bott and Nut.	.10	.10	.10	.10	.10	.10	.10
Lower " " " " "	.10	.10	.10	.10	.10	.10	.10
Jaw Clamps "	.25	.25	.30	.45			
Hook Pin		70 mm 100 mm	100000000000000000000000000000000000000		.25	.65	1.20
D. C. III	.10	.10	.10	.10	.10	.10	.10
Base Screw Handle						(2.70)(2.00)	
and Clampea.							
Vise Complete "		4 95		-::	111		
· me Complete	3.60	4.25	5.00	7.50	5.00	11.00	23.50

Martin Portable Vise Stand and Pipe Bender



Small Size, with Chain Vise



Large Size, with Hinged Pipe Vise and Rear Support

This apparatus is designed for use wherever pipe must be cut, threaded or bent. It can be picked up at any time and moved from place to place. There are no bolts, screws or braces to remove. It does not have to be fastened to the floor, walls or ceiling. It will not tilt, upset or skid.

It is convenient for cutting and threading pipe. For these operations, the pipe is fastened in the vise and rests in the bending attachment which keeps it rigid and in line.

Small Size

Equipped with a special device which will bend pipe from ½ to ¾-inch diameter easily without kinking. Capacity, with chain vise, 2-inch pipe; with hinged vise, 2½-inch pipe. Weight complete, with hinged vise, 54 pounds; with chain vise, 50 pounds. Rear support not supplied.

Cat. No.	Description	Price Each
1 A	Complete with Hinged Vise	\$39.00
1 B	Stand with Hinged Vise, Less Legs	35 00
*1C	" Legs, Less Vise	31.00
*1D	" Less " " "	27.00
1E	Complete with Chain Vise	39.00
1F	Stand with Chain Vise, Less Legs	35.00
†1G	" Legs, Less Vise	31.00
†1H	" Less " " "	27.00
	Large Size	

Capacity with chain vise, 4 inches; with hinged vise, 4½ inches. Bender capacity, one inch. Weight complete, with hinged vise, 175 pounds; with chain vise, 159 pounds.

Cat. No.	Description	Price Each
2A	Complete with Hinged Vise	\$90.00
*2B	Stand with Legs and Rear Support, Less Vise.	75.00
2 C	" " Hinged Vise, Less Rear Support	71.00
2 D	Stand with Hinged Vise, Less Legs and Rear Support	65.00
*2E	" " Legs, Less Vise and Rear Support	56.00
*2F	" Only, Less Vise Legs " " "	50.00
2 G	Complete with Chain Vise	90.00
†2H	Stand with Legs and Rear Support Less Vice	75.00
2K	" " Chain Vise, Less Rear Support	71.00
2L	Stand with Chain Vise, Less Legs and Rear Support	65.00
$\dagger 2M$	" Legs, Less Vise and Rear Support	56.00
†2N	" Only, Less Vise, Legs and Rear Support	50.00
Dr	illed for hinged vise. †Drilled for chain vise.	10

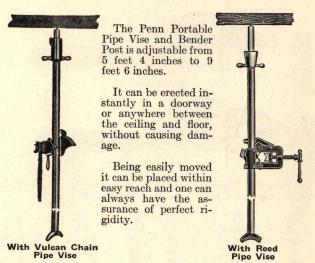
Nye Vise Stands with Pipe Bender



Equipped with or without Nye Vises. Frame a one piece malleable casting. No parts to jar loose or get lost. Can be drilled for any size vise specified. Bender can be used with open side vise or bench vise. Standard equipment includes four legs—two with malleable feet drilled for lag screws, two with pointed and well spread out for five few details. with pointed ends well spread out for firm foundation. Can be shipped without legs to save freight charges, if desired.

Price, with Legs and No. 10 Self Locking Vise... each \$23.00 but without Vise..... "

Penn Portable Pipe Vise and Bender Posts



With Vulcan Chain Pine Vice and Render

	with vuican	Chain Fipe	vise and ben	aer
	Capacity Vise	Bender Holding	Shipping Weight	Price
No.	Pipe, In	Pipe, In.	Pounds	Each
*1	1/8 to 2 1/8 " 4	3/4	30	\$17.00
*2	1/8 " 4	11/4	60	22.50
	With Red	ed Pipe Vise	and Bender	
1	1/8 to 2	3/4	30	\$17.00
2	1/8 " 31/2	11/4	60	22.50

*No. 1 is equipped with No. 1 Vulcan chain pipe vise; No. 2 with No. 2 Vulcan chain pipe vise.

Trimo Pipe Wrenches



Wood Handle Made with wood handle in sizes 6, 8, 10 and 14-inch.

Length Open, In.	Takes Pipe, In.	Price Each	Length Open, In.	Takes Pipe, In.	Price Each
6	1/8 to 1/2	\$2.00	18	1/4 to 2	\$5.00
8	1/8 to 1/2 1/8 " 3/4	2.25	24	1/4 " 21/2	7.25
10	1/8 " 1	2.50	36	1/2 " 31/2	13.50
14	1/4 " 11/2	3.50	48	1 " 5	20.00
		Fyte	a Parte		

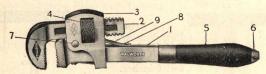




Nut with
Guard
Inserted

PRICE, EACH—								Price		
For Wren In.	Move- nch able Jaws	Nuts	Insert Jaws		Springs	Frame	Jaw Pins	Steel	lood Han- dles with Ferrule	Nut Guards
6	\$.75	\$.12	\$.35	\$.40	\$.03	\$.03	\$.03	\$.95	\$.16	\$.15
8	.80	.15	.40	.45	.03	.03	.03	1.00	.16	.15
10	.85	.20	.50	.55	.03	.04	.04	1.10	.18	.20
14	1.15	.30	.60	.70	.03	.04	.04	1.50	.25	.30
18	1.75	.35	.70	.95	.04	.04	.04	2.25		.35
24	2.25	.55	.80	1.40	.04	.04	.04	3.50		.45
36	4.35	1.10	1.10	2.20	.04	.05	.05	7.00		.55
48	7.50	1.50	2.00	2.70	.04	.05	.05	10.50		.65

Genuine Walworth Stillson Wrenches



Wood Handle



Steel Handle

Sizes 6 to 14-inch are furnished with wood handle; 10-inch and larger, steel handle unless otherwise specified.

Length Open Inches	Takes Pipe Inches	Price Each	Length Open Inches	Takes Pipe Inches	Price Each
6 8	1/8 to 1/2	\$2.00	18	1/4 to 2	\$5.00
	1/8 " 3/4	2.25	24	1/4 " 21/2	7.25
10	1/8 " 1	2.50	36	1 " 3½	13.50
14	1/4 " 11/2	3.50	48	1 " 5	20.00

E	xt	ra	P	a	rt	s

				P	RICE, EAC	H		-	-
		2 Jaws	3 Frames	Ad- justing Nuts	5 Wood Handles	6 End Nuts	7 Frame Pins	8 Spring Rivets	9 Springs
3	\$.95	\$.75	\$.38	\$.12	\$.16	\$.15	\$.03	\$.01	\$.10
3	1.00	.80	.42	.15	.16	.15	.03	.01	.10
)	1.10	.85	.50	.20	.18	.20	.04	.02	.10
1	1.50	1.15	.60	.30	.25	.20	.04	.02	.10
3	2.25	1.75	.75	.35			.04	.02	.10
4	3.50	2.25	.95	.55			.04	.02	.11
6	7.00	4.35	1.70	1.10			.05	.02	.13
8 1	0.50	7.50	2.20	1.50			.05	.02	.13
	renchibles	ench with thes Springs \$.95 \$.1.00 \$.1.10 \$.1.50 \$.2.25 \$.3.50	ench with 2 hes Springs Jaws 5 1.00 .80 1.10 .85 1.50 1.15 3 2.25 1.75 4 3.50 2.25 7.00 4.35	rench with 2 3 Frames 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	r Bars 2 3 Add- yench with 2 3 4 Add- yench with 2 4 Add- yench with 2 4 Add- yench with 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	r Bars 2 3 4d- 55 4d- justing Nuts Handles 6 5 1.00 80 .42 .15 .16 1.10 .85 .50 .20 .18 4 1.50 1.15 .60 .30 .25 3 2.25 1.75 .75 .35 4 3.50 2.25 .95 .55 6 7.00 4.35 1.70 1.10	rench with 2 3 3 justing Wood End Handles Springs 3 4ws Frames Nuts Handles Nuts Handles Nuts 1 5 16 1.15 16 1.15 16 1.15 16 1.15 1.16 1.15 1.16 1.15 1.16 1.15 1.16 1.15 1.16 1.15 1.15	r Bars Park Primes Prim	The Bars of Ba

Little Giant Pipe Wrenches



Made of only 3 parts. No springs or frame to break. Convenient in confined places, has an increased swing due to end opening jaws. Drop forged and heat treated throughout. All sizes packed 6 in a bex.

Size	For	WE	GHT		PRICE, E	ACH —	
In.	Pipe, In.	Lbs.	Oz.	Complete	Handle	Jaw	Nut
8	3/4		14	\$2.25	\$1.50	\$.80	\$.25
10	1	1	7	2.50	1.75	.85	.30
14	11/2	2	14	3.50	2.50	1.15	.45
18	2	4	8	5.00	3.50	1.75	.50
24	21/2	7	15	7.25	5.00	2.25	.75

Larco All Steel Monkey Wrenches

Has unbreakable steel frame, with handles and jaws of forging steel. 10 18 Size..... ..inches Opens. Price, Wrench Complete 3.50 5.00 ..each \$2.25 2.50 **Parts** 10 ...inches 18 Price, Movable Hook Jaw...each \$.80 \$.85 \$1.15 \$1.75 Inserted Jaw..... Knurled Thumb Screws .70 .50 .60 " " Adjusting Nuts..... .20 .30 .40 .50 Springs..... .10 .10 .10 .64 Frames..... .56 .70 .80 Bridges.... Frame Pin (Rivet).... .10 .10 .10 .10

Coes Knife-Handle Wrenches



Handles.....

The handle is a cast semisteel frame with hardwood handles.

.04

1.40

.04

1.10

.03

1.00

.04

2.10

Length . . . inches 15 18 21 215/32 Opens..inches 31/8 Price ... per doz. \$15.00 18.00 22.00 28.00 38.00 48.00 58.00

Reed Strap Wrenches



For screwing up all kinds of nickel-plated and polished

pipe, tubing or shafting without marring.

When worn the straps can be changed end for end, thus prolonging the life of the wrench. The change from one position to the other may be made by simply altering the position of the strap in the slots in head without loosening any screws.

	Length	Takes Pipe	Price Complete	Extra Straps
No.	Inches	Inches	Each	Each
12	12	1/8 to 2	\$1.50	\$.40
18	18	1 " 5	3.00	1.00

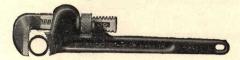
Nye Union Valve-Nipple Wrenches



Made so when inserted in a radiator union valve it catches the nipple at the base,

thus avoiding mashing them. Takes sizes ½ to 2-inch inclusive. Price.....each \$1.50

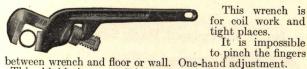
New Ridgid Pipe Wrenches



Jaws are of the best tool steel. Jaw-housing and I-beam handle are one solid construction of certified malleable iron. Adjusting nut rides free in an open housing. This feature allows one a full finger and thumb grip on the nut, making possible a much easier and quicker adjustment.

Size Inches	Price Each	Size Inches	Price Each
6	\$2.00	18	\$5.00
8	2.25	24	7.25
10	2.50	36	13.50
14	3.50	48	20.00

Ridgid End Pipe Wrenches

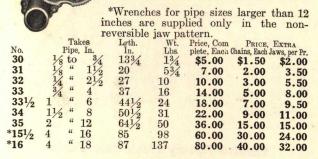


This wrench is for coil work and tight places.
It is impossible

This ridgid pipe wrench is clean-cut. Has only 3 working parts. The paws are made of best tool steel, hardened by the most improved methods. The jaw housing and I beam handle is one solid construction of certified malleable. This design embodies strength and eliminates breaking of housings or saddles and handles.

	Wt., Lbs.			Wt., Lbs.	
Size	per Box	Price	Size	per Box	Price
Inches	of 6	Each	Inches	of 6	Each
E 6	$2\frac{3}{4}$	\$2.00	E18	33	\$5.00
E 8	$5\frac{1}{2}$	2.25	E24	50	7.25
E10	11	2.50	E36	15 Each	13.50
E14	20	3.50	APACE A		et alche

Williams' Improved Vulcan Drop-Forged Chain Pipe Wrenches With Flat Link Chain



Walworth Reversible Bostongs



The cam action insures a positive grip and instant release when the pressure on handle is relieved. Pipe may be turned in either direction without removing the tong from the pipe, unhooking chain from the jaw, or shifting the jaws on the pipe. Handle and jaws are made of drop-forged carbon steel, teeth carefully tempered, strong flat link chain. Special length of chain to order.

		CCI.			
Size	Takes Pipe	Length	Length Chain	Weight	Price, Each
No.	Inches	Inches	Inches	Pounds	Complete
2	$\frac{1}{2}$ to 2	23	111/2	$6\frac{1}{2}$	\$6.00
4	3/4 " 4	36	171/2	1514	8.50
6	1 " 6	45	$24\frac{3}{8}$	251/2	12.00
8	1½ " 8	50	293/4	36	18.00
12	2 " 12	64	451/8	63	26.00

Mueller Pipe End Reamers



Pipe cutters leave a burr which reduces pipe area.

The ends must be reamed after cutting if the full carrying capacity

is to be retained.
The ratchet is so constructed that the strain is divided into half

a dozen bearings, greatly increasing the durability of the tool.

Price, Small Ratchet Pattern, Reams Pipe 3/8 to 11/4	
Incheseach Price, Large Ratchet Pattern, Reams Pipe 3/8 to 3	\$5.00
Incheseach	7.50

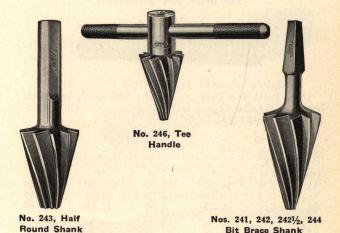
Pipe Taps



Briggs standard right hand taper threads are furnished unless otherwise specified.

	No. of Briggs			PRICE,	Елсн-
Pipe Size Inches	Std. Thread to Inch	Length Thread Inches	Length Over All Inches	Carbon Steel	High Speed Steel
1/8	27	3/4	21/8	\$1.00	\$1.10
1/4	18	11/16	27/16	1.20	1.50
3/8	18	11/16	29/16	1.60	1.95
1/2	14	13/8	31/8	2.00	3.10
3/4	14	13/8	31/4	2.80	4.40
1	111/2	13/4	33/4	4.40	7.80
11/4	$11\frac{1}{2}$	13/4	4	5.00	12.10
11/2	111/2	13/4	41/4	6.60	16.60
2	$11\frac{1}{2}$	$1\frac{3}{4}$	$4\frac{1}{2}$	10.00	27.25

G T D Spiral Fluted Burring Reamers

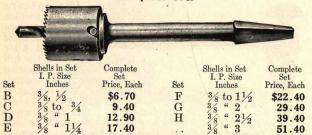


Made of high grade steel and designed for removing burrs caused by cutting pipe, and also for counter-sinking,

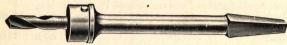
Ground to adapt them for use in a variety of materials. Spiral flute reduces chattering.

No.	Style of Shank	Capacity Pipe Inches	Price Each	Price per Doz.
241	Bit Brace	1/8 to 1/2	\$1.00	\$12.00
242	Bit Brace	1/8 to 1	1.25	15.00
2421/2	Bit Brace	1/4 to 11/4	1.50	18.00
243	½ Round	1/4 to 11/4	1.50	18.00
244	Bit Brace	1/4 to 2	3.00	36.00
246	T Handle	1/4 to 2	4.00	48.00

Improved Combination Shell Drills Complete Sets



Stems and Center Drills



Price, Stem with Center Drill to Fit Shells 3/8 to 3	
Incheseach	\$1.60
Price, ¼-inch Threaded Center Drills for Stems "	.60
" ¼-inch Center Guides	.20

Shells



I.P.		Only	I.P.		Only	I. P.		Only
Size	0. D	Price	Size	0. D.	Price	Size	O. D.	Price
In.	ln.	Each	In.	In.	Each	In.	In.	Each
3/8	3/4	\$2.40	1	13/8	\$3.50	2	27/6	\$7.00
1/2	15/16	\$2.40 2.50	11/4	111/16	4.50	21/2	215/16	10.00
3/8 1/2 3/4	11/8	2.70	11/2	1 15/16	5.00	3	35/8	12.00

4-Point Star Drills

For Brick and Concrete



The 4-Point Star Drill is made of a high grade tool steel, hand forged and tempered, and fully guaranteed to give satisfaction to every user.

Cutting	Ship. Wt. 12-In.				
Diameter	Length		PRICE, P	ER DOZEN-	
of Drill	per Doz.		LENGTH	, INCHES—	
Inches	Lbs.	8	12	18	24
1/4	21/2	\$8.25	\$8.50	\$11.00	\$13.50
5/16	$2\frac{1}{2}$	8.25	8.50	11.00	13.50
5/16 3/8	$3\frac{1}{2}$	8.25	8.50	11.00	13.50
7/16	31/2	8.70	9.00	11.50	14.00
1/2	5	9.65	10.00	12.50	15.00
9/16	6	11.65	12.00	15.00	17.50
					21.00
5/8	7	11.65	12.00	15.00	17.50
3/4	11	13.70	14.00	17.50	20.00
5/8 3/4 7/8	14	15.30	16.00	20.00	22.50
1	191/2		18.00	22.50	25.00
11/8	26		24.00	28.00	32.00
11/4	28		30.00	35.00	40.00
13/8	31		40.00	45.00	50.00
11/2	37		50.00	56.00	62.00
15/8	39		60.00	66.00	72.00
13/4	39		75.00	81.00	87.00
17/8	39		90.00	97.00	104.00
2	48		105.00	112.00	120.00
					120.00

No. 5 Threadwell Hack Saw Frames



Heavily nickelplated over copper. Depth, 3½ inches. Stock, ¾x¾ inch. Packed 1 in a box with 1 each fine,

medium and coarse blades. Weight, 32 ounces each. Price, No. 5, 8 to 12-Inch Capacity.....per dozen \$24.00

No. 4 Threadwell Hack Saw Frames

Pistol grip frame is nickeled and machine polished. Depth, 3 inches. Stock, \[^{3}_{6}x^{5}_{8}\] inch.



Packed 1 in a box with 1 blade. Weight, 20 ounces each.

Price, No. 4, 8 to 12-Inch Capacity..... per dozen \$8.00

No. 2 Threadwell Hack Saw Frames



All parts are nickel-plated and frame machine polished. Depth, 234 inches. Stock,

3/6x5% inch. Packed 1 in a box with 1 blade. Weight, 16 ounces each.

Price, No. 2, 8 to 12-Inch Capacity.....per dozen \$5.50

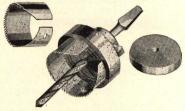
Quality Hand Hack Saw Blades



Made in two sizes: No. 1, all-hard; No. 2, flexible, especially recommended for electricians, plumbers, steam fitters, etc.
Unless otherwise specified, all-hard blades furnished. When length only is given in hand blades, 18 teeth per inch furnished.

			TEETH I	PER INCH,	FOR CUTTI	NG	
		Regular		Tool	Drill I	hin Tubing	
		Stock	Soft	Steel	Rod	Elect.	
		Blade for	r Steel	Light	Iron	Casing	
		General	and	Angles	Pipe, and	and Thin	Price
Lgth. Wie	ith Thicknes	ss All Roun	d Cast	Brass and	Sheet	Sheet	per
In. Inc	hes Gauge	Work	Iron	Copper	Metals	Metals	Gross
8 1	2 .025 or	23 18	14	18	24	*32	\$8.00
9 1	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	23 18	14	18	24	*32	9.00
10 1	2 .025 "	23 18	14	18	24	*32	10.00
12 1	2 .025 "	23 18	14	18	24	*32	12.00
12 1 *No.	2, only.						

Excelso Rotary Hack Saw Tools



Rapidly and easily cuts holes through metal to fit pipe size taps. One tool cuts holes for either 1, 1½ or 2-inch pipe taps by inserting proper size blades. Cuts labor cost 75 per cent for making holes through metal or other material. Its operation is simple, being used in an ordinary hand brace. Price, Including 6 Blades, 2 of Each Size.....each \$7.50

", Extra Bladeseach Blades, 1¼-inch, can be supplied at an extra cost.

Engineers' Favorite Flue Cleaners



O. D.		O. D.	
Tube	Price	Tube	Price
In.	Each	In.	Each
11/2	\$2.00	3	\$3.00
13/4	2.00	31/4	3.25
2	2.00	31/2	3.50
21/4	2.25	33/4	3.75
21/2	2.50	4	4.00
23/4	2.75		

Chesterton's Elliptical Flue Cleaners



Has steel cutting arms that thoroughly remove all scale and soot. Sizes less than 2inch take 2-inch price.

Price, Sizes 1¼ to 6 Inches.....per inch \$1.00

Pilley's Combination Flue Brushes and Scrapers

Fits all sizes tubes from 2 to 6 inches.



Price.....per diameter inch \$1.00

No. 1953 Wire Flue Brushes

Round Steel

Round steel wire double spiral flue brushes for 2 to 6-inch flues.

Price, No. 1953, 1 to 6-inch....per inch \$1.00



No. 1955 Wire Flue Brushes



Flat Steel

Flat steel wire flue brush for cleaning 2 to 6-inch boiler tube.

Price, No. 1955, 2 to 6-inchper inch \$.90

No. 1950 Wire Flue Brushes



Flat Steel

Flat steel wire single spiral flue brushes for 1 to 6-inch flues.

Price, No. 1950, 1 to 2-inch.....each \$2.00 Price, No. 1950, 2 to 6-inch....per inch 1.00

Spiral Flat Wire Flue Brushes



Price, All Sizes 1 to 6-Inchper inch \$.50

Boiler and Heater Brushes

Flat Wire





Boiler and Heater Brushes

Rectangular

No.	Brush In.	Nipple In.	Price Each
1900	$1\frac{5}{8}$ x4 x4 $\frac{1}{2}$	$\frac{1}{4}$ x $2\frac{1}{2}$	\$1.00
1901	$2\frac{1}{2}x6 x4\frac{1}{2}$	1x21	
1902	$3\frac{1}{4} \times 6\frac{5}{8} \times 4\frac{1}{2}$	$\frac{1}{4}$ x $2\frac{7}{2}$	2.00

No. 1903 Boiler and Heater Brushes



Flat

Size of brush, 134x4x51/2 inches; nipple, 14x21/2 inches.

Price, No. 1903 .. each \$1.50

Boiler and Heater Brushes

Square



	Brush	Nipple	Price
No.	In.	In.	Each
1915	2x4x4½	1/4x21/2	\$1.4
1916	$3x5x4\frac{1}{2}$	$\frac{1}{4}$ x2 $\frac{1}{2}$ $\frac{1}{4}$ x2 $\frac{1}{2}$	1.70

Boiler and Heater Brushes

Oval

	Brush	Nipple In.	Price
No.	In.	In.	Each
1910	2x4x4½	1/4x21/2	\$1.20
1911	$3x5x4\frac{1}{2}$	$\frac{1}{4}$ $\frac{x2}{2}$ $\frac{1}{4}$ $\frac{x2}{2}$ $\frac{1}{2}$	1.50



No. 1928 Boiler and Heater Brushes



No. Description

1928 Square, 3½x5 In., 1-in. Wires, ½x4 Nipple

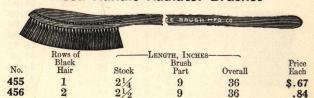
Price, Each le \$1.50

No. 451 Radiator Brushes



Has plain handle. Brush part of black hair, 1 row; length stock, 2 inches; brush part, 9 in.; over all, 24 in. Price, No. 451....each

Wood Handle Radiator Brushes



No. 3 Wiedeke Standard Roller Tube Expanders For Hand Use



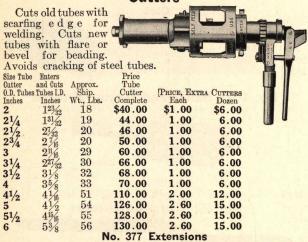
This expander, for hand use only, is designed for those naving only an occasional use for an expander. The mandrel and rolls are made of tool steel and hardened. The frame and rear collar is one piece furnishing a substantial bearing at all times for the guard, which can be removed if necessary. No separate collar or locking pin required, these generally becoming loose from service and throwing expander out of commission.

Tables show smallest inside diameter any expander passes into and what it will expand to, enabling one to select an

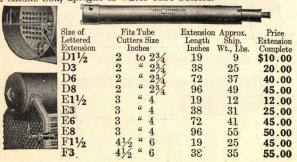
expander with proper range.

Size of	Enters I.D.	May and the second			
Expander	Tubes and	Approx.	-	PRICE, EACH-	
for O.D.	Expands to	Ship.	Expander	Extra	Extra
Tubes, In.	Inches	Wt., Lbs.	Complete	Mandrels	Rolls
1	27/32 to 1	21/2	\$10.00	\$2.00	\$.20
11/4	11/6 " 11/4	23/4	10.00	2.00	.20
11/2	19/32 " 11/2	3	10.00	2.00	.20
13/4	11/2 " 13/4	41/4	10.00	2.00	.20
2	123/32 " 2	5	10.00	2.00	.20
21/4	115/16 " 21/4	6	12.00	2.00	.20
21/2	25/32 " 21/2	71/2	14.00	2.50	.20
23/4	213/32 " 23/4	81/2	16.00	3.25	.35
3	25/8 " 3	101/2	18.00	3.75	.35
31/4	27/8 " 31/4	14	20.00	4.25	.50
31/2	31/8 " 31/2	17	23.00	4.75	.50
33/4	33/8 " 33/4	171/2	25.00	5.50	.60
4	39/6 " 4	201/2	30.00	5.75	.60
41/4	313/6 " 41/4	241/2	40.00	6.50	.80
41/2	41/6 " 41/2	25	50.00	8.50	.80
5	41/2 " 5	341/2	60.00	10.00	1.00
6	53/8 " 6	491/2	70.00	11.00	1.75

No. 375 Wiedeke Ideal Self-Feed Tube



Connect proper length extension to tube cutter No. 375 for smoke box, upright or water tube boilers.

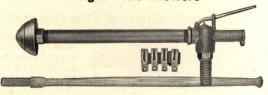


Sanitary or Toilet Brushes



Price, No. 476, White Fibre, 22 Inches Long....each \$.42 " 477, Palmetto Fibre, 22 Inches Long..." 59

Magic Flue Blowers

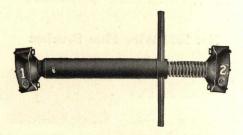


Stuffing box in the valve eliminates possibility of steam escaping under the lever.

Price is for blower with wood handle, clamps and nipple only—hose extra.

	11000	OIL CLEON					
	Hose	O.D.			Hose	O.D.	
	Connection	Tubes	Price	(Connection	Tubes	Price
No.	Inches	Inches	Each	No.	Inches	Inches	Each
1	1/2	2 -21/4	\$6.00	4	1	31/2-33/4	\$10.50
2	3/4	21/2-23/4	7.50	5	11/4	4 -41/2	12.00
3	1	3 -31/4	9.00	6	11/2	$5 - 6^{2}$	15.00

Vulcan Trench Braces



This brace or jack is exceedingly strong, being made of high grade steel and iron throughout.

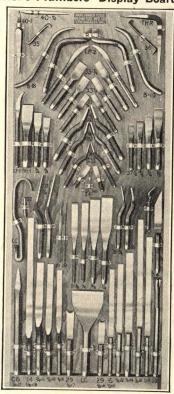
The ball and socket joints forming the ends will immediately assume the angle of the planking when put in position and take a firm bearing; thus preventing caving.

This brace is adapted to any width of ditch by merely changing the length of tubing, which is standard gas pipe.

It can be extended to about one-half of the length of the threaded screw.

	——DIMENSIO	ONS, INCHES-		Approx.	
Diam.			Safe	Weight	
Pipe and	Length Brace	Length	Extension	per	Price
Screw	Closed	of Screw	of Screw	Dozen Pounds	Dozen
11/2	16	11	6	210	
				219	\$23.00
11/2	18	12	7		23.00
11/2	21	14	8	238 .	24.00
$\frac{11/2}{11/2}$	24	14	8	249	24.00
11/2	27	16	9	270	26.00
11/2	30	16	9	277	26.00
11/2	36	18	10	303	27.00
11/2	42	18	10	312	28.00
11/2	48	18	10	325	29.00
	36	18	10	542	
2 2 2	42	18	10	564	51.00
2					52.00
4	48	18	10	586	53.00
2	54	18	10	608	54.00
2	60	18	10	574	55.00

Plomb Hand-Forged Tools No. 3 Plumbers' Display Board

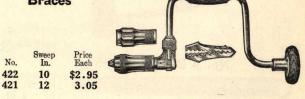


37		Price
No.	One Each of the Following:	Each
40	½-Inch Brace Reamer	. \$.75
THR		
35	22-111CH Hand Reamer	1 00
36	4-Inch Offset Screw Driver 4-Inch Auto Screw Driver	
BI-8	½x10-Inch Bending Iron	50
BI-9	5%x10-Inch Bending Iron	40
RL	%x10-Inch Bending Iron. Pair %x9-Inch Right and Left Calkers.	50
LP-2	Tall 72A9-Inch Lead Picking Tools	1 20
33	Tall %-Inch Long Calkers	1 00
33	Fair %-Inch Long Calkers	
033		
033		
033	Pair %-Inch Offset Long Calkers Pair %-Inch Offset Long Calkers	1.20
21	Pair 14-Inch Pony Columns	1.00
34	T Screw Drivers, 3-Inch Blades. ½39-Inch Lead Picking Tool, Straig_t, Sgl.	. 60
LP-1	1/2x9-Inch Lead Picking Tool Straig t Sci	.35
86		
86	%-Inch Cold Unisel	
86		
37	%-Inch Soil Pipe Chisel	
37	78-Inch Boll Tipe Chisel	50
37		
37 CC	%-Inch Soil Pipe Chisel.	.90
22		
131		
131	34-Inch Long Gasket Calker. 58-Inch Long Gasket Calker.	.90
18	%XI-IHCH SO, SCRATCH AWI	
19	26A7-IHCH OCC. SCRALCH AWI	0.5
31	%-Inch Short Gasket Calker	
31		
20	½-Inch Elbow Calker	.40
4 5	%X10-Inch Plugging Chisel, ¼-in. Pt	.75
5	24-Inch Elbow Calker 54x10-Inch Plugging Chisel, 14-in. Pt 54x10-Inch Floor Chisel, 14-in. Pt 54x14x10-Inch Floor Chisel, 14-in. Pt	. 60
5	5/x1 x10-Inch Floor Chical	.80
5	%x1 x10-Inch Floor Chisel	1.00
CG		1.20
14		1.10
14		1.20
14		.90
14	2x11 ½-Inch Offset Yarner, 3x7-Inch Slitting Chisel.	.80
LC	4x7-Inch Slitting Chisel	. 80
29		2.35
6	5/8x6-Inch Slitting Chisel	.60
6	½x11½-Inch Spring Yarner ½x12 -Inch Spring Yarner	.80
6	3/x14 -Inch Spring Varner	.90
6	5/8x18 -Inch Spring Yarner	1.20
6	1/6x18 -Inch Spring Varner	1.10
13		
All	Plomb Tools are made from carefully selected	gtool
and an	re hard forged and finished.	BUCCI
	and minimoned.	

Screwdrivers



Ratchet Braces



Expansive Bits



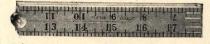
No.	Cuts Inches	Price per Doz.
172	5% to 2	\$22.00
171	7% " 3	26.00

Levels



Price, 2-foot Levels.....each \$2.50

No. 651 Four-fold Rules



feet	2
per dozen	\$3.00
	per dozen

No. 400 Measuring Tapes



Length	 		1							feet	25	50	
Price	 	 							.per	dozen	\$6.60	9.00	



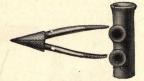
.....each \$.50

No. 164 Oval Shave Hooks



Price...

No. 142 Lead Pipe Expanding Pliers



.each \$3.50

No. 7 Bending Springs



Price, No. 5.....

No. 195 Turn Pins

No. 85 Drift Plugs



Price, Size 1, 2 and 3 Price, 1, 11/4, 11/2 and each \$.50 2-inch each \$.45

No. 84 Dressers



Price, Dogwood.....each \$1.25

No. 15 Bossing Sticks



Style..... Price, No. 15. each Dogwood Boxwood Lignum-vitae \$.50

No. 114 Plumbers Mallets



Made from dogwood. Size 3x6 inches. Price, No. 114.....each \$.46 No. 220 Wing Dividers



No. 83 Plain Compasses



Size....inches 6 Price....each \$1.00 Size..... inches 5-6 Price each \$1.00 1.75

No. 22 Candle Holders



Shank made of steel and holder of brass. Price, No. 22each \$.25

No. 20 Nye Wiping Cloths

16-ply Dry Herringbone Ticking
 Size
 inches
 2x2
 2½x2½
 2x3
 2½x3

 Price
 per doz.
 \$4.40
 4.40
 4.40
 4.40

 Size
 inches
 3x3
 3½x3½
 4x4

 Price
 per doz.
 \$4.40
 5.00
 5.35

For 8-ply dry genuine English moleskin add to prices as follows: 4x4-inch, \$2.15: other sizes, \$2.00.

Ingot Lead Moulds

Bar Solder Moulds





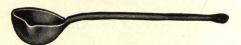
Price, 2 Bar each \$2.30 4 Priceeach \$4.50

Pig Lead Moulds



.....each \$4.80

No. 111 Ladles



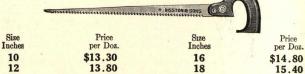
···.inches 3 31/2 18 Price.....each \$.38 .45 .53 .60

No. 135 Solder Pots



Size....inches 4 5 6 7 8 9 10 12 Price....each \$.75 .90 1.15 1.50 1.90 2.25 3.00 5.25

No. 2 Compass Saws



. .

. . . .

14.20

14

Soldering Coppers Pointed Pattern

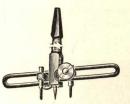


Furnished in 1, 1½, 2, 2½, 3, 4, 5, 6, 7, 8, 10 and 12 pounds to the pair. When ordering state weight. Prices upon application.

Soldering Coppers Swivel Hatchet Patterns



Weight, per pair.pounds 3 4 5 6 Prices upon application.



No. 441 Washer Cutters

For cutting washers of leather, fiber, cloth or thin sheet metal. Blades are adjustable and easily removable. Is equipped with off-set blade with which it is possible to cut washers of all sizes from ½ to 5½ inches.
Price, No. 441.....each \$2.90
"Extra Blades..per set .60

Regular Soil Pipe Test Plugs



Makes perfect joint on standard or extra heavy soil

In.	Price Each	Size In.	Price Each
2	\$1.40	6	\$3.40
3	1.80	8	5.90
4	2.50	10	10.00
5	2.90	12	21.50

Bit Stock Drills For Metal or Wood Carbon Steel



Size of shank, 3/6x3/8x11/4 inches.

Diam. In.	Over All In.	Twist In.	Price Each	Diam. In.	Lgth. Over All In.	Lgth. Twist In.	Price Each
1/16 3/32	$\frac{31/8}{31/2}$	1 1/16	\$.21 .23	5/16	53/4	35/8	\$.59
1/8	37/8	17/8	.25	3/8	6 8	31/16 33/4	.67
5/32 3/16	4 1/4 4 9/16	$\frac{21}{4}$ 2^{9} 16	.30	7/16	$\frac{6\frac{1}{4}}{6\frac{1}{2}}$	4 4 3/6	.78
7/32 1/4	$\frac{47}{8}$ $5\frac{3}{16}$	$\frac{2^{13}}{16}$.38	15/32	613/16	4 7/16	.98
9/32	$5\frac{1}{2}$	33/8	.50			4%	1.09

Straight Shank Twist Drills

Carbon Steel

High Speed Steel



	T 13	PRICE,				Pric	Елен
Diam. In.	Length Over All In.	Carbon Steel	High Speed Steel	Diam. In.	Length Over All In.	Carbon Steel	High Speed Steel
$\frac{1}{16}$ $\frac{3}{32}$	3	\$.45	\$.90	5/16	63/8	\$.70	\$1.30
1/2	51/8	.45	.90	3/8	$\frac{6\frac{1}{2}}{6\frac{3}{4}}$.75	1.40 1.50
5/32 3/16	$\frac{53}{8}$ $\frac{53}{4}$.45	.90	13/32	7	.90	1.65
7/32	6	.55	1.00	15/32	71/2	1.00	1.75 1.90
9/32	61/8	.60	1.10	1/2	$7\frac{3}{4}$	1.20	2.00

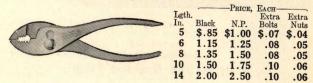
Forged Steel Tinners' Snips

No. 1819 Regular Pattern



Length of Cut Inches	Length Over All Inches	Price per Pair	Length of Cut Inches	Length Over All Inches	Price per Pair
41/2	17	\$4.50	21/2	11	\$1.60
41/4	$15\frac{3}{4}$	3.00	21/4	101/4	1.20
37/8	141/4	2.50	2	81/2	1.00
31/2	$13\frac{1}{2}$	2.00	13/4	8	.90
3	12	1.75			In the least of

Model M Billings Dependable Combination Slip Joint Pliers



No. 326 Burner Pliers

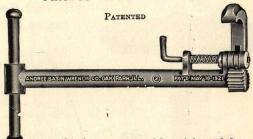
Drop forged tool steel. Knurled handles. Polished. Strong and well made.

Length inches	5	6
Weight, per Dozen pounds	3	13/
Price, No. 326 per dozen	\$8.00	4 ³ / ₄ 9.00

Trimo Basin Wrenches



Andree Basin Wrenches



Reversible jaw operates either right or left. Guaranteed to apply and remove any basin cock nut and not slip. Made of drop forged steel, strong and durable. Is 8 inches long and weighs but a pound.

Price, with Large Jaw only each \$4.00
" Both Large and Small Jaws "
4.80

Round Bastard Files

Size.....inches 12 14 Price.....per dozen \$4.30 5.60 7.50 10.70

Flat Bastard Files



10 Size.....inches Price.......per dozen \$5.30 7.00 9.70 13.30

Mill Bastard Files



.....inches 10 14 Price.....per dozen \$4.30 5.60 7.50 10.70

Half Round Bastard Files



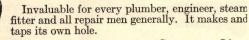
Lengthinches 10 Price..... per dozen \$7.50 9.10 11.80 15.50

Half Round Rasps

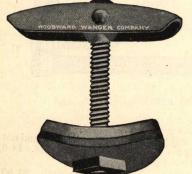


Length inches 8 10per dozen \$10.10 13.70 18.70 24.80 Price ...

Rapid Tap Plugs



Size Thd. In.	Price per Doz.	Size Thd. In.	Price per Doz
	\$3.25	7/16	\$4.00
5/16	3.50	1/2	4.00
1/4 5/6 3/8	3.50	9/16	4.25



No. 3830 Boiler Repair Bolts

This repair is for use on jobs where the metal is rather thin at the point of leakage.

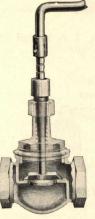
Will give satisfaction in such cases.

Well and strongly made.

Fitted with extra durable rubber washer.

Price, No. 3830per doz. \$2.50

Skinner Valve Reseating Tools



For reseating all flat and taper seat, globe or angle valves, in place, accurately and quickly. This tool lines up through the bonnet insuring an accurate cut. Each cutter has 2 parallel blades—producing an offset or shaving cut. Fits all globe valves.

This is the only inexpensive tool with mechanical screw feed. It can not chat-

Good valves can be reseated 10 to 20 times.

The first 2 or 3 jobs pay for the tool. Operated with bit brace provided.

For taper seat valves, turn cutter other side up.

Packed in hardwood case and is guaranteed against defects.



Range Inches	Weight Pounds	Size of Box Inches	Price Each
1/2 to 2 1/2 " 3	6	93/4x53/4x21/4	\$20.00
1/2 " 3	12	$13\frac{1}{4}x7\frac{1}{4}x2\frac{1}{4}$	30.00

Skinner Bibb Reseaters

The Skinner Bibb Reseater is fed by a thread, making good mechanical results.

The bonnet is slipped off the leaky faucet and the tool inserted, fitted with proper cutter. Turn the feed screw down until the cutter rests lightly on the bibb seat. Then turn the wheel steadily, unyieldingly with occa-sional slight twists of the feed screw.

Equipped with three cutters. For $\frac{3}{5}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ -inch bibbs of the same material and workmanship as the cutters furnished with the Skinner Valve Reseater. Priceeach \$2.00



No. 4170 Johnson Improved Double Cone **Faucet Seat Dressers**



For reseating faucets, basin stops, compression valves, etc. Can be used on inside or outside. Threaded fittings. Four cutters with each dresser.

Made in sizes $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and $\frac{7}{8}$ inch.

Packed one in a box. Weight each, 13 ounces.

Price, No. 4170 each \$3.00



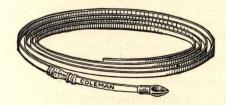
Coleman Flexible Closet Augers



A practical device for removing obstructions from water closets and drain pipes. It will go through any closet.

pipes	5. 16 WI	n go thro	ougn any	closet.
Lgth. Coil	SHERA	RDIZED Price	BLACK	ENAM.
Ft.	No.	Each	No.	Price Each
3	C510	\$5.50	C516	\$4.00
6	C515	6.50	C517	5.00
9			C518	6.00
12			C519	8.00

Coleman Sewer Rods



For cleaning out straight sewers or drains. Made of special oil tempered, flat spring, steel wire. Nos. 537 to 542 furnished with spear point and automatic grip handle.

No.	Size In.	Lgth. Ft.	Price Each	No.	Size In.	Lgth. Ft.	Price Each
536	1/4x1/16	$\begin{cases} 25 \\ 50 \\ 75 \\ 100 \end{cases}$	\$1.85 3.50 5.00 7.00	539	3/4x1/8	$\begin{cases} 25 \\ 50 \\ 75 \\ 100 \end{cases}$	\$5.00 7.00 10.00 14.00
537	½x½	$\begin{cases} 25 \\ 50 \\ 75 \\ 100 \end{cases}$	2.40 4.50 6.00 8.00	540	1½x½	25 50 75 100	6.00 9.00 12.00
538	3/4 x 1/16	$\begin{cases} 25 \\ 50 \\ 75 \\ 100 \end{cases}$	4.00 6.00 8.00 10.00	542	1½x½	25 50 75 100	16.00 7.00 10.00 15.00 20.00

Thawing Steamers



Made of heavy copper. Fits on top of gasoline furnace. Price....each \$11.00

NO.50

No. 50 Detroit Fire Pots For Gasoline

Tank is of heavy gauge seamless steel with welded bottom and brazed fittings. Tinned inside and out to prevent rust. Large filler funnel with dust-proof cap; heavy malleable top plate; heavy upright; one-piece drawn shield, automatic safety pump of large size.

Adjustable needle valve regulates the fire. The new style generator can be removed and cleaned without taking off the coil cup, top plate or uprights. Unscrew the union and generator can be lifted out.

Price, No. 50 each \$22.00

No. 52 Unique Furnaces For Gasoline

The rapid, scientific method of generation prevents carbonization and clogging. Operates in a high wind or in zero weather. The patented figure 8 seamless drawn steel tubing generator creates an intense heat which will melt 50 pounds of lead in 10 minutes.

The furnace has a patented gate for dislodging generator without dismantling the entire furnace. The automatic orifice cleaner, when turned to and fro, clears the orifice of dirt and foreign particles.

This furnace is equipped with a 5-inch top-plate. Special tinner's hood furnished. Capacity, 1 gallon.



Price, No. 52, Weight, 10 Pounds.....each \$27.00

No. 103 Unique Blow Torches

1-Quart Capacity
For Gasoline

Designed especially for outdoor work. Has a positive, steady blue flame of intense heat and great force. The simple, natural principle of generation enables the operator to throttle it down to a fine flame without danger of it chilling and going out.

the hilling and going out.

When orifice is clogged with foreign particles, the supply valve should be opened and closed which automatically clears the orifice.

An 18-gauge steel tank with spuds and bottom hand welded.
Shipping weight 4 pounds

Shipping weight, 4 pounds. Price, No. 103..... each \$20.00

No. 365 Plumbers' Tool Bags



Leather trimmed carpet bag with 3½-inch leather reinforcement on sides and bottom. Top has ¾-inch leather reinforcement.

Price, No. 365.....each \$18.00

All Steel Grips



Style	Dimen., In.	Price, Ea.
214	14x 7x 9	\$4.75
216	16x 9x11	5.00
218	18x10x13	5.25

Ideally adapted to plumbers and enginemen. Waterproof and water-tight; perfect protection to clothes and equipment, and is washable. Looks like a traveling bag and is no heavier. Will not warp. Finished in durable brown baked enamel.

Fitted with brassed corners, side catches and Corbin notch locks. Leather handle with steel core.

Style	Dimen., In.	Price Ea.
220	20x11x13	\$5.50
222	22x11x13	5.75

All Steel Grips



No.	816
Sizeinches	16x9x11
Price each	\$7.00

Nye Steel Tool Chests



Made of ½-inch steel sheet entirely reinforced with 2½-inch oak cleats.

Heavy steel skids make the chest slide easily over rough surfaces and prevent wear. The lid is held down at the front corners with ½-inch bolts which screw into malleable iron corners having a ¾-inch thread surface.

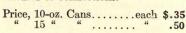
Equipped with six heavy handles, chained lock and keys. Chest is enameled in olive green with cleats in natural color. Furnished with one sliding drawer.

No.	Depth Inches	Width Inches	Length Inches	Price Each
1	11	12	24	\$26.00
2	14	15	30	35.50
3	16	17	36	39.00
4	19	20	42	45.50

Desolvo Sewer and Drain Pipe Cleaner

Desolvo cleans clogged pipes and has solved the problem of removing obstructions in drain, waste, and sewer pipes, or from washstands or closets, caused by the accumulation of grease, soap, rags, hair, paper, vegetables or other organic matter.

It is a combination of mineral elements so intermingled that upon its mixture with water a chemical reaction takes place, generating intense heat and powerful gases. It contains no acids and will not injure plumbing fixtures or connections.





Tite-on Repair Cement

For Vitreous Ware, China Ware and Metals

The white cement is to be used for repairing white ware only, such as cracked or chipped lavatories, chipped bath tubs, chipped ice boxes, chipped gas ranges, repairing tile floors, etc. Is a real success for setting china handles, but needs 12 to 24 hours to harden. Good for repairing cracks and chipped parts in all vitreous china and enameled ware, and for repairing cracked laundry tubs.

The black cement is for repairing all metals, even lead and aluminum ware. Has no equal for repairing cracked sectional boilers, works as well on a wide crack as a narrow one. Also repairs cracked radiators. Will stand heat up to 1200 degrees Fahrenheit and stands expansion and c5n-traction.

Made in white, blue-white and cream-white, gray, brass and aluminum color.

Price upon application.

Whiz Plumbers' Soil



Whiz plumbers' soil ensures a high standard of workmanship due to its easy application and the results obtained.

Lead or brass pipe to which a coating of Whiz plumbers' soil has been applied has absolutely no affinity for solder, which guarantees a uniformly wiped joint with sharp edges.

Cans have improved covers which cannot come off, thus preventing the contents of the can from being emptied into the tool bag, and dirtying the tools.

Price, 4-Ounce Cansper dozen \$2.40



Plumbers' Putty

Best quality putty. It is furnished in 5, 12½ and 25-pound pails.

Prices upon application.

Plumbers' Candles



Price.			per	pound
"	20-1	ooun	d Boxe	es each
"	50	"	"	"
	720			

Genuine Tallow

Regular

Price.....per pound "20-pound Boxes each

Superior Cleanser



Will remove dirt, grease, rust stains, etc., from enameled iron ware without injurious effects, and without destroying the lustre of fixtures.

It requires only to sift a small quantity on a damp cloth with which it is to be applied to enameled surface.

Price, 2 Dozen ½-Pound Cans.....per case \$4.80

Tubola



Scientifically compounded for a polishing cleanser which will not scratch or harm the surface of porcelain or enamel ware.

Porcelain ware or tile can be cleaned very easily by an application of Tubola.

Especially adaptable for use on soda fountains or in grocery or meat shops, etc., for the cleaning of marble, enamel, or porcelain fixtures.

Copper or brass fixtures will look like new after an application of Tubola.

For cleaning or polishing of cooking utensils, aluminum ware and linoleum, Tubola is unexcelled.

Put up in 12-ounce cans, packed 24 in a carton.

Price..... per dozen \$3.00

HER COMPANY TO SANTARY WAY

K K Closet Cleaner

A chemical compound in powder form. Perfectly sanitary, odorless and harmless. Cleans without dipping the water out of the bowl and will not injure the bowl or connections. Simply shake a little into the bowl and flush.

Price, 24-ounce Cans.....each \$.25 24 "per dozen 3.00

Boiler Neverleak



Guaranteed to stop all ordinary leaks and cracks in hot water heating boilers; also steam boilers below water line, provided directions are followed and fire is kept up under boilers for not less than three hours after Neverleak has been used.

It is not necessary to know what sections or tubes are leaking, or to lose use of the boiler. All that is necessary is to build a coal fire under boiler, heat water throughout boiler to at least 150° and pour the Neverleak directly into the water.

Price,	Quart Caneach	\$6.00
"	Half-gallon Cans "	10.00
"	Gallon Cans"	18.00



Lard Oil

Pure winter strained lard oil. Put up in woodjacketed cans.

Size of Cans	gallons	1	3	5	
Price	per gallon				



Dixon's Ticonderoga Flake Graphite

Prepared in the coarser (or No. 1) flake, and the powdered flake (or No. 2) size.

This graphite is indispensable to engineers and mechanics for coating gaskets and packing, for pipe fitting, etc.

			No. of	Price		Price
	Size		Cans	per	Price	per
No.	Pkg., Lbs.	Style of Package	in Case	Case	Each	Pound
632	1	Paper Cans	36	\$13.80	\$.45	
633	5	Screw-Top Tin Cans.	10	18.50	2.00	
634	10	u u u u	5	18.00	3.75	
644	25	Boxes			8.75	
645	50				16.50	
646	100	Kegs				\$.32
6461/2	200	"				.31
647	400	Barrels				

Nos. 1 and 2 Smooth-On Iron Cements

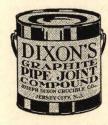


Nos. 1 and 2 Cements are put up in blue labeled cans and steel kegs. They come in powder form and are used by mixing with water to a stiff putty. No. 1 is quick hardening. No. 2 is slow hardening. These cements are used for repairing leaks or breaks in iron or steel castings, making tight seam or flanged joints on old or new work, and stopping leaks of steam, water, fire, oil or gas in boilers, furnaces, stoves, radiators, pipes, tanks, water jackets, etc. Used on iron, steel, brass, copper, aluminum, wood, etc.

	BLUE LABEI	ED CANS	_		STEE	KEGS-	
Wt.	Price	Wt.	Price	Wt.	Price	Wt.	Price
Lbs.	per Lb.	Lbs.	per Lb.	Lbs.	per Lb.	Lbs.	per Lb.
7/16	\$.30	5	\$.44	25	\$.33	100	\$.29
1	.50			50	.31		

No. 693 Dixon's Graphite Pipe Joint

Compound



Dixon's Graphite Pipe Joint Compound is not a cement which hardens, but rather a true lubricant for the threads of pipe bolts, nuts, turnbuckles, etc., making them easy to screw up and allowing them to be taken apart without damage or trouble.

Also valuable on flanges, gaskets, etc.

Packed in a tin can, weight, 1 pound, 36 in a case.

Price, No. 693.....per pound

Tasgon



POLYGON PRODUCTS CO

A few drops of Tasgon will dissolve rust and loosen every rusty nut, bolt, coupling, union bushing or connection of any kind.

It will not injure metal. No clipping or cutting.

No time is wasted and no parts are destroyed.

Cleans and lubricates all rusty surfaces.

Size Can Pints	Description	Price per Can
1/4	With Nozzle Top	\$.40
11/4	" Plain "	1.00
8	" " "	5.00

Total Heat

Useful Information

Properties of Saturated Steam

						Required to
						Generate
						1 Lb. of
			-Vo	DLUME		Steam from
Press		Т		Cu. Ft. of		Water at 32°
By	URE	Temperature in	Compared	Steam	Latent	under
Steam		Fahrenheit	with	from 1 J.b.	Heat in Fahrenheit	Constant
Gauge	Total	Degrees	Water	of Water	Degrees	Pressure in Heat Units
0	15	212.	1642	26.36	965.2	1146.1
5	20	228.	1229	19.72	952.8	1150.9
10	25	240.1	996	15.99		
15	30	250.4			945.3	1154.6
20			838	13.46	937.9	1157.8
	35	259.3	726	11.65	931.6	1160.5
25	40	267.3	640	10.27	926.	1162.9
30	45	274.4	572	9.18	920.9	1165.1
35	50	281.	518	8.31	916.3	1167.1
40	55	287.1	474	7.61	912.	1169.
45	60	292.7	437	7.01	908.	1170.7
50	65	298.	405	6.49	904.2	1172.3
55	70	302.9	378	6.07	900.9	1173.8
60	75	307.5	353	5.68	897.5	1175.2
65	80	312.	333	5.35	894.3	1176.5
70	85	316.1	314	5.50	891.4	1177.9
75	90	320.2	298	4.79	888.5	1179.1
80	95	324.1	283	4.55	885.8	1180.3
85	100	327.9	270	4.33	883.1	1181.4
90	105	331.3	257	4.14	880.7	1182.4
95	110	334.6	247	3.97	878.3	1183.5
100	115	338.	237	3.80	875.9	1184.5
110	125	344.2	219	3.51	871.5	1186.4
120	135	350.1	203	3.27	867.4	1188.2
130	145	355.6	190	3.06	863.5	1189.9
140	155	361.	179	2.87	959.7	1191.5
150	165	366.	169	2.71	856.2	1192.9
This	table	gives the	value o	f all prope		

This table gives the value of all properties of saturated steam required in calculations connected with steam boilers

Useful Information Steam

A cubic inch of water evaporated under ordinary atmospheric pressure is converted into 1 cubic foot of steam.

The specific gravity of steam (at atmospheric pressure) is 411 that of air at 34° Fahrenheit, and .0006 that of water at the same temperature.

27222 cubic feet of steam weigh 1 pound; 13817 cubic feet

of air weigh 1 pound.

The best designed boilers, well set, with good draft, and skillful firing, will evaporate from 7 to 10 pounds of water per pound of first-class coal.

In calculating horse-power of tubular or flue boilers, consider 15 square feet of heating surface equivalent to 1 nominal

horse power.

On 1 square foot of grate can be burned on an average from 10 to 12 pounds of hard coal, or 18 to 20 pounds soft coal, per hour, with natural draft. With forced draft nearly double these amounts can be burned.

Steam engines, in economy, vary from 14 to 60 pounds of feed water and from $1\frac{1}{2}$ to 7 pounds of coal per hour per in-

dicated horse power.

Condensing engines require from 20 to 30 gallons of water to condense the steam represented by every gallon of water to condense the steam represented by every gallon of water evaporated in the boilers supplying engines—approximately for most engines, we say, from 1 to 1½ gallons condensing water per minute per indicated horse power.

Surface condensers should have about 2 square feet of tube (cooling) surface per horse power for a compound steam engine. Ordinary engines will require more surface according to their economy in the use of steam. It is necessary to place air pumps below condensers to get satisfactory results.

Ratio of Vacuum to Temperature

(Fahrenheit) of Feed Water

00	Inches	Vacuur	n212°	271/2	Inches	Vacuum	1	12°
11	"	"	190°	281/2	"	"		92°
18	"	"	170°	29	"	"		72°
221/2	"	"	150°	291/2	"	"		52°
*25	"	"	135°	/2				

*Usually considered the standard point of efficiency condenser and air pump being well proportioned.

Useful Information

Steam Boilers

May be classed under two heads, as all are, without exception, either fired externally or internally. The relative economy of the two systems is largely determined by the furnace construction, plus or minus the loss of heat by radiation in the same.

The loss in boilers fired externally consists in the radiation of heat through the brick setting, while in boilers fired internally the fuel is consumed in close contact with the furnace sheets which are a component part of the boiler structure, and as the heat is transmitted directly to the water which surrounds the furnace, the loss by wasteful radiation is comparatively small. Hence, practice bears out the statement of Stephen Roper, the eminent engineer, that the internally fired is the most economical type, and that such a boiler will give them its rescribed life. save its cost in less than its reasonable life.

Boiler Horse-power

Conditions modify all calculations in determining the horsepower of a boiler, such as design, quality of the material of which it is made, facilities for cleaning, impurities in the water, calorific power of fuel used, attendance, and draught of chimney, etc.

Moreover, no dogmatic set of rules will insure satisfactory results in every case of boiler construction, as the factors of grate and heating surface, temperature of feed water, proper control of air to support combustion, steam and water space, circulation of water within the boiler, all vary with each type of boiler used, and even with different proportions in the same type. Hence this article is only intended to give an approximate statement of the case as shown in existing formulas.

Approximately, the horse-power, if externally fired, may be calculated by multiplying in inches $\frac{2}{3}$ of the circumference of the shell by its length, then multiply the product of the area of all the flues or tubes by their length, add these products together and divide by 144 to find square feet, then divide this quotient by 14. 144 represents the square feet of heating surface in the shell, tube and flues, and 14 the square feet of heating surface usually allowed per horse-power feet of heating surface usually allowed per horse-power.

For internally fired boilers multiply in inches the circumference or square of furnace by its height, then multiply the circumference of one tube by its length, and this product by the entire number of tubes, taking into account also the square inches of surface presented by the crown or tube sheet. Add these quantities together and divide by 144, the quotient will be the heating surface in square feet, and this, when divided by 14, the last quotient will be the horse-power.

With a good draught for the furnace, 10 square feet of heating surface, ½ a square foot of grate surface, 8 lbs. of good coal and 1 cubic foot of water evaporated per hour may be estimated for each nominal horse-power that the boiler should develop.

For Cylindrical Boilers

Each nominal horse-power requires 1 cubic yard capacity, 1 square yard of heating surface, 1 square foot of grate bar surface, 1 cubic foot of water evaporated per hour and 28 square inches of flue area. The area for entrance of air to ash pit should be ¼ of area of grate; depth of ash pit, 1 foot 6 inches to 2 feet 6 inches.

The grate-bars should incline downwards towards the front, 1 inch per foot; not over 3/4 inch thick and 3/8 to 3/6 inch spaces between.

The furnace should have at least 3 cubic feet of space above each square foot of grate surface.

For Horizontal Tubular Boilers

The length of tubes should be 48 times the diameter. For soft coal 4-inch diameter gives the best results, with 1 inch space between the tubes, and 2½ inch space between tubes and shell of boiler. Tubes should be set in vertical rows to facilitate cleaning.

Useful Information

Steam Coils for Domestic Purposes

A steam coil immersed in water will condense about 100 times as much steam as it will surrounded by still air.

A brass or copper pipe surrounded by water will give off about 200 thermal units per square foot of surface per hour for each degree difference in temperature between the steam and the surrounding water. This is assuming that the water in the tank or boiler is moving over the coil at a moderate velocity. In assuming the temperature of the water, take the average between that of the inlet and outlet. To arrive at square feet coil necessary to heat any given quantity of water in a given time to a certain temperature—first reduce the gallons of water to pounds; then by taking the temperature of inlet from required temperature we get degrees water is to be raised; these quantities multiplied together give heat units required to raise the water to desired temperature -this will be the dividend. Next get the average temperature by taking half the sum of the inlet and outlet temperature; then find the temperature of the steam and deduct from it the average temperature of the water and multiply by 200 for a divisor. Example: How many square feet of heating surface will be required in a brass coil to heat 120 gallons of water per hour from 40 to 120 degrees with steam at 3 pounds pressure.

Water to be heated. Rise in temperature Thermal Units required. Average temperature of water in con-	$ \begin{array}{r} 120x8\frac{1}{3} = \\ 120-40 = \\ 1000x80 = \end{array} $	80	degrees
Temperature of steam at 3 pounds	120+40=	80	"
Difference between 220° and average		220	"
Then the B. T. U. per square foot of	80°=	140	"
surface given up to the water Coil required=800002÷8000	140x2000=	=28000 2:85 s	

Size of Heater

The size of the heater to warm in one hour the quantity of water to the temperatures given in the example depends upon how much coal is burned per hour per square foot of grate. Five pounds is a fair average for such work, and with good combustion the available heat units per pound of coal is about 8000. As this example requires 80000 heat units to heat the water per hour, the grate surface will equal $\frac{80000}{5\times8000} = 2 \text{ square feet.}$

This requires a heater with 19-inch grate. To heat the water in two hours would require just half the grate or a heater with 14-inch diameter grate. In four hours a heater with 10-inch diameter grate.

Chimney Flues

Areas of chimney flues should approximate one-sixth the listed grate areas of boilers connected to them when the fuel used is hard coal, and one-fifth when soft coal.

No boiler will give the best results if connected to an imperfect chimney flue. The most common defect is lack of capacity, and we frequently find buildings with flues utterly inadequate for the service required. People often burn paper in a chimney, and if the flame is drawn quickly upward the flue is considered equal to any requirement. This is likely to be a serious mistake, and while a strong draft will compensate to some extent for lack of area, the only safe course is to build flues sufficiently large to do their work easily. The difference in cost is not worth considering in view of the trouble to be avoided.

Flues should be perfectly straight, plastered smoothly inside, and never less than eight inches deep. A square flue will have a better draft than an oblong flue of equal area. Round tile flues are best. Flues should be built in inside walls wherever possible, and so located that the smoke pipe shall be very short. They should always be carried above the highest point of the building or adjacent buildings. Sometimes several flues are built in one chimney, all connected together in the ash pit. In such cases, if one of the flues is connected with a fire place, or any other opening, it will spoil the draft, no matter how good the flue may be.

Direct Steam Radia. Sq. Ft.	Horse Power	Size Cnimney In.	Direct Water Radiation Sq. Ft.	Direct Steam Radiation Sq. Ft.	Horse Power	Size Chimney In.	Direct Water Radiation Sq. Ft.	
250 300 400 500 600 700 800 909 1000	2.5 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 12.0	8x 8 8x 8 8x 8 8x12 8x12 12x12 12x12 12x12 12x12	400 500 700 850 1000 1200 1350 1500 1700 2100	1400 1600 1800 2000 2200 3000 3500 5500 8000	14.0 16.0 18.0 20.0 22.0 30.0 35.0 50.0	12x16 12x16 12x16 12x16 16x16 16x16 16x20 16x20 20x20	2400 2700 3000 3400 3700 5100 5900 8500 9300	
			2100	0000	80.0	20x20	13000	

Useful Information Gallons Discharged per Hour Through Various Sized Orifices Under Stated Pressures

Head	Pounds Pressure per Square				ез ій Інснея	
Feet	Inch	1/4	3/8	RACTIONS OF	AN INCH—— 5/8	3/4
20	8.66	300	720	1260	1920	2760
40	17.32	450	960	1800	2760	3960
60	25.99	540	1200	2160	3480	4800
80	34.65	620	1380	2460	3840	5580
100	43.31	690	1560	2760	4320	6240
120	51.98	780	1680	3000	4740	6840
140	60.64	816	1860	3300	5100	7320
150	64.97	840	1920	3420	5280	7620
175	75.80	900	2040	3660	5700	8220
200	86.63	960	2220	3900	6120	8760
235	101.79	1080	2460	4320	8280	11160
	Pounds	1000	2100	1020	0200	11100
Head	Pressure		-DIAMETERS	S OF ORIFICE	IN INCHES	
in	per Square		-AND FR	ACTIONS OF		
Feet	Inch	1	11/4	11/2	13/4	2
20	8.66	4920	7380	11100	15120	19740
40	17.32	6720	10920	15720	21360	27960
60	25.99	8580	13380	19200	26220	34260
80	34.65	9840	15480	22260	30300	39540
100	43.31	11040	17280	24900	33900	44280
120	51.98	12120	18960	27240	37440	48480
140	60.64	13020	20160	29460	39080	52320
150	64.97	13560	21180	30480	41460	54120
175	75.80	14640	22800	32880	44940	58560
200	86.63	15600	25020	35880	47880	62580
235	101.79	17100	26760	38520	52260	68460
The	nreggire	or hond	f motor			

The pressure or head of water is taken at the orifice, no allowance being made for friction in the pipe. In practical calculations to determine the height which water can be thrown, the head consumed by the friction of the water in flowing from the source to the orifice must be considered.

Surfaces and Capacities of Pipes

2 2.06 7.46 2.37 1.6 .69 .69 .69	61 75 61 62 .6
1.65 .65	61 75 61 62 .6
1.65 .65	61 75 61 62 .6
1.65 .65	75 61 62 .6 61
.62	61 62 .6 31
. 65	.6 .6 .6
. 65	.6 .6 .6
. 65	.6 .6 .6
02.0	. 6 61
02.0	. 6 61
	61 . 6
	61 . 6
3.61	. 6
14.6	
5	
.047	17
.477	77
. 563	33
. 686	36
. 000	
. 456	6
. 100	U
	0
10.0	U
98.0	7
98.0 .617	
	98.

Useful Information

Wrought Iron and Steel Pipe

Safe Working Pressures

Numerous factory tests to determine the actual bursting pressure of wrought pipe have proved Barlow's formula to be correct. This formula follows:

BP equals $\frac{2TXTS}{OD}$

in which BP equals bursting pressure in pounds per square inch.

T equals thickness of the wall in inches.
OD equals outside diameter of the pipe in inches.
TS equals tensile strength of material per square inch.

The value of TS was determined from actual tests to be 40000 pounds per square inch for butt welded steel pipe and 50000 pounds for lap welded steel pipe.

The table following is based on the formula given above. The working pressures given are based on a factor of safety of eight.

Theoretical Bursting and Working Pressures

Pounds per Square Inch

		AND SE	Anna	HOL BURNING	Dou	
	Stand		Extra !	Strong	Extra 9	
	Bursting Pressure	Working Pressure	Bursting	Working	Bursting	Working
Size	Barlow's	Factor	Pressure Barlow's	Pressure	Pressure	Pressure
In.	Formula	8	Formula	Factor 8	Barlow's	Factor
-					Formula	8
1/8	13432	1679	18760	2345		
1/8	13032	1629	17624	2203		
3/8	10784	1348	14928	1866	THE RESERVE	N. P. C.
	BEN FEE	1010	11020	1000		
1/2 3/4	10384	1298	14000	1750	28000	3500
3/	8608	1076	11728	1466		
1 4	8088	1011			23464	2933
	0000	1011	10888	1361	21776	2722
11/	6744	049	0000	1150		THE LEADING
11/4		843	9200	1150	18408	2301
11/2	6104	763	8416	1052	16840	2105
2	5184	648	7336	917	14680	1835
						1000
21/2	5648	706	7680	960	15360	1920
3	4936	617	6856	857	13714	1714
31/2	5610	701	7950	994		
0/2	9010	101	1990	994	15900	1987
4	5266	658	7480	935	14070	1051
	4940			100000000000000000000000000000000000000	14970	1871
41/2		618	7100	887	14200	1775
5	4630	579	6740	842	13480	1685
9	1000					
6	4220	528	6520	815	13040	1630
7	3940	493	6550	819	11470	1434
8	3730	466	5780	722	10140	1267
		-	0.00	.22	10110	1201
9	3550	444	5190	649		
10	3390	424	4650	581		
12	2940		2000			
14	2940	368	3920	490		

	Large O.D.										
Size In.	3% In. Thick Bursting Pressure Barlow's Formula	Working Pressure Factor 8	½ In. Thick Bursting Pressure Barlow's Formula	Working Pressure Factor 8							
14	2680	335	3570	446							
15	2500	313	3333	417							
16	2340	293	3120	390							
18	2080 * 1870 1700 1560	260	2770	346							
20		234	2500	313							
22		213	2270	284							
24		195	2080	260							

In the above table, butt welded pipe was figured on sizes 3-inch and smaller and lap welded pipe sizes $3\frac{1}{2}$ -inch and larger.

	Weight per Foot	.246	.426	.855	1.140	2.290	2.740	5.850	7.660	10.900	12.700	19.200	23.800	70.300			igan
	nside Circum,	.845	1.144	1.954	2.589	4.335	5.058	7.757	9.638	12.648	5 856	9.054	2.063	0.010		ng	t, Mich
	Outside Circum.	1.272	1.696	2.639	3.299	5.215	5.969	9.032	12.566	4.137	7 477	20.813 1	3.955	000.11	Diameter Extra Strong	Inches—Total Distance Pipe Screws into Fitting	Copyright Owned by United States Radiator Corp., Detroit, Michigan
	Area of Metal			1		.668	799	707	672	17	3.665 4.300	5.58	0.926	0.63	ra Stroi	able External	Corp.,
	nside Area	.057	104				2.036	4.778 1.	9.887	12.730	20.006	28.890	50 097	20.	ter Ext	Dot nee Pip	adiator
	Outside Area	.129	358	.554	1 258	101	2.835	9.492	12.566	040	90	22	15.004	Price of Pipe per Foot	Diame	" l Dista	States H
	Actual Inside Diam.		.364		-		1.610	Oi c	3.548	4.026	563 5.047 24.3	6.065	7 081	of Pipe	Actual Inside	s—Tots	Juited 8
	Actual Outside Diam.	. 405	540	. 840	1.050	1.660	9.375	2.875 2.4	4.000	4.500	5.563	6.625	8 695	-		Inche	led by I
	8.53 8.53 8.53 8.53 8.53 8.53 8.53 8.53		:	: :	:	: :	**						oc	63	7		ht Own
	8 10.88 2.11 7.62 7.754 7.34 7.34											1	•	2.35			Copyrig
	8 10.08 2.01 1.26 6.62 6.54 6.34 6.34 6.34											9	:	1.88			
	8 9.28 1.91 1.16 5.56 5.56 5.28 5.28										, ro		:	1.45	4.813	1.10	
	8.80 11.85 11.10 5.00 6.100 4.73 4.73 4.73									41/2	7/4		:	1.30	4.280	3.564	
	8 8.40 1.80 1.05 4.50 4.50 4.233 4.233 4.44							::		4		:		1.08	3.818	3.136	
e e	8 8.00 1.75 1.00 4.00 3.938 3.738 3.438				:				31/2	::::				.95	358		
Data	8 1.76 1.70 3.95 3.50 3.443 3.243 3.243 3.243								. :					.216			
T pe	8 1.64 1.64 1.89 2.87 2.818 2.618 2.588	:						21/2		:		:		.203			TWELL
ב	1115 1.10 1.10 1.37 2.33 2.201 2.201	:	: :	:				::		:		:		.154			H. Feltwell
wrought	1111 6.33 1.07 1.07 1.90 1.866 1.728 1.728 1.323 1.323 1.323 1.323	:		:						:				.145	494 1	. 55	FED, R.
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	2.46 2.82 3.9 3.9 3.840 0.657 1.057 1.702	1	: :	1/2								:/	/	.085			
	18 63 63 80 675 675 656 1568	-	3/8	:	: :	:					:			.055		30	
	22 22 24 33 33	:	:			:		: :	7		/:	: :	:	0.055		29	
	70	-	4,		: :	:		:			:			0.055			
	7. 2. 139 1. 150				0.0						7	1	3	urface	S Bu		КЗ
	Top	_	-10	40	001	2.301	1	1.329		.764	.687	.501	.443	ipe in de or	stu	ngth of te 0 to	16 Fe
	Taper at Pipe Pe	14.200	7.748	6.141		2.768	1.848	1.547	1.077	.848	757	.630	479	oipe in Square Juste	to to to to to	ngth et pe ni to	9.1 Fe 0.1
		.106	1771.	.220	.344	.434	.622	.753	1.047	1.309	1.456	1.996	2.258	Radi- ce per	10 (stru foot	S an I S an	ou ati
	'Il Threads, per Inch of Screw Perfect Threads, th of Thread and Length of Perfect Thread. ameter of Perfect Thread. Thread. Ameter of Thread at End of eter of Thread at End of Feter of Thread at End of Perfect of Thread or Inch of Screw.	.024	.082	131	.374	.647	453	3.201	. 281	.905	662	510	662	and ni to to	1	ntain 1631 06 uare	t!
	t Threads hread and J. Thread and J. Thread and J. Thread and J. Thread are of Thread at J. T	.003	600	.015	044	105		.248		.828 6.		2.012 16	.598 21	Lineal	I ni qiq	to to	07 04
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	er of Threa Perference of Thread le Diamete of Thread le Diamete of Thread le Diamete of Thread it Tap Drill	252	5 754	47	16	7 96.27	6 45		-8	77 6		9 9	4	ni eqic	10	dign	7

